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RAILWAY AND COMMERCIAL GAZETTE.

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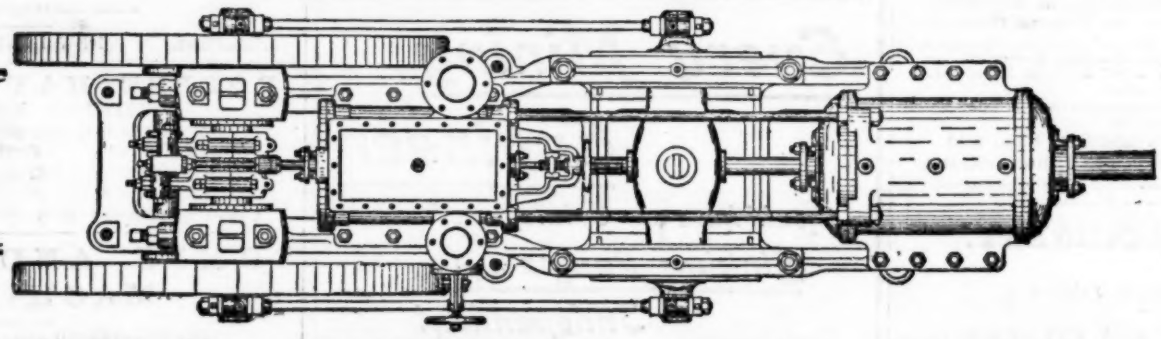

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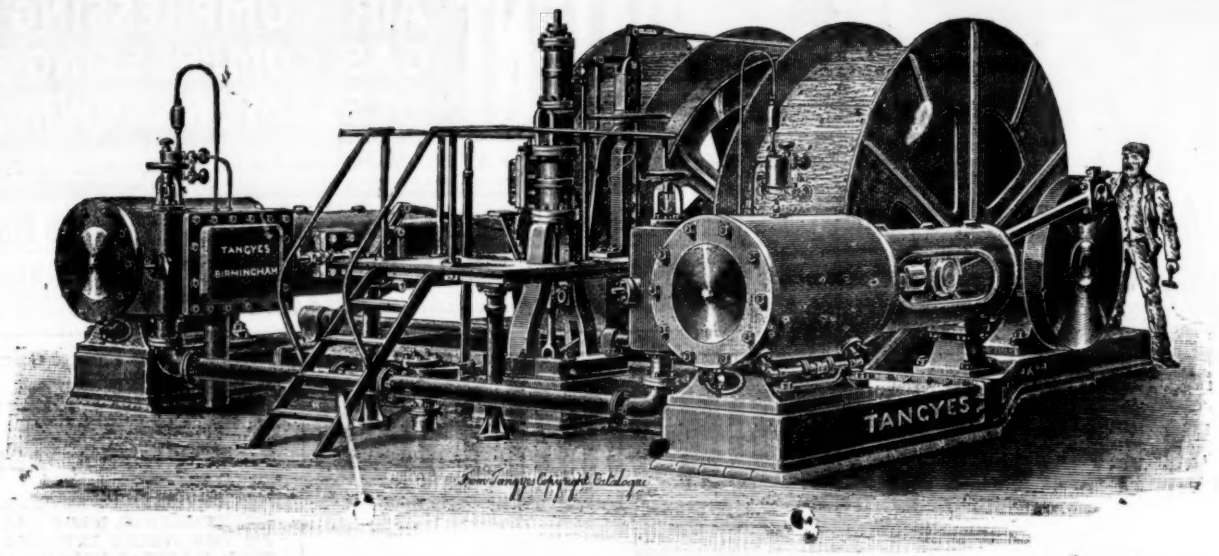

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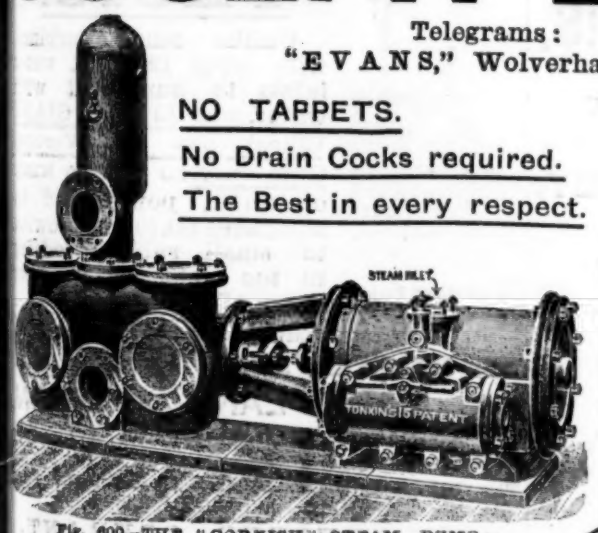

Fig. 600.—THE "CORNISH" STEAM PUMP.

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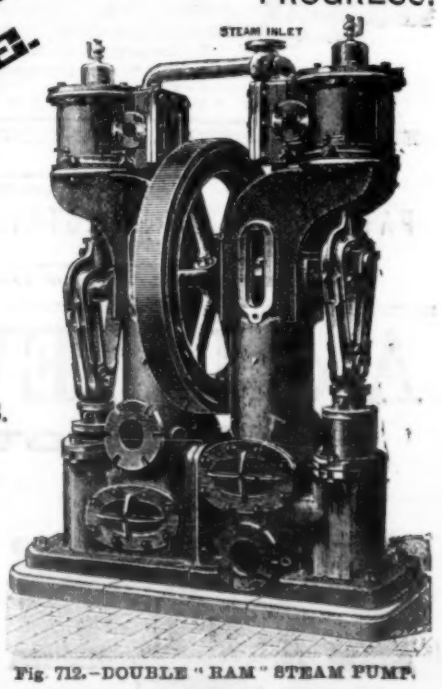

Fig. 712.—DOUBLE "RAM" STEAM PUMP.

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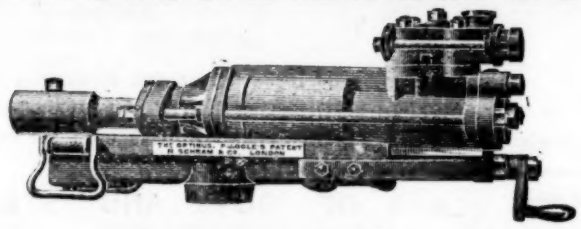

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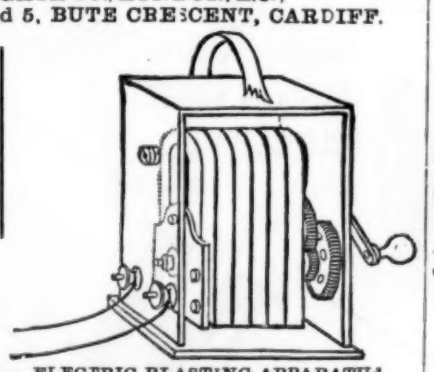

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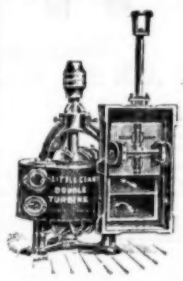

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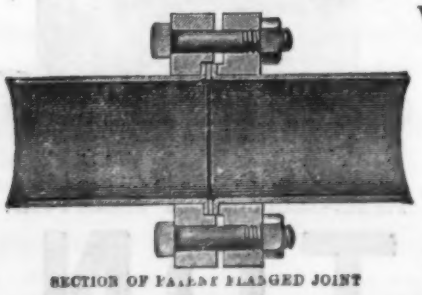

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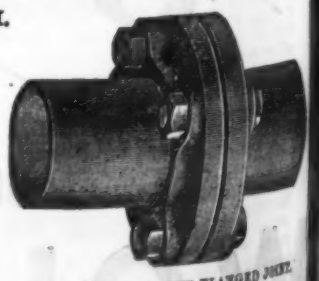

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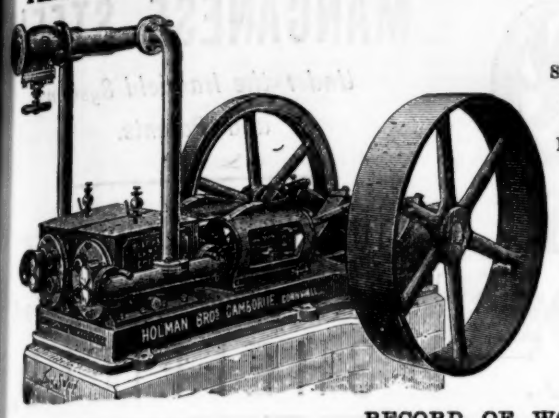

FIRST SILVER MEDAL, Highest Award, Mining Institute Contest, 1881.

Three Makers represented.

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At Botallack Mine, St. Just, Cornwall, **TWELVE MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** drove, sunk, and rose **288 FATHOMS** in **12 MONTHS**, equal to five times the Speed of Hand Labour

At Wheal Grenville Mine, Camborne, Cornwall, **SIX MEN** with **TWO** new Patent **CORNISH ROCK DRILLS** started from the **150 FATHOMS** level and put up in **EIGHT MONTHS** a **11 FEET** by **5 FEET PERPENDICULAR RISE 46 FATHOMS 5 FEET 6 INCHES**, and about midway drove **1 FATHOM 5 FT.** No communication of any kind was effected until holing to the Shaft brought down from surface

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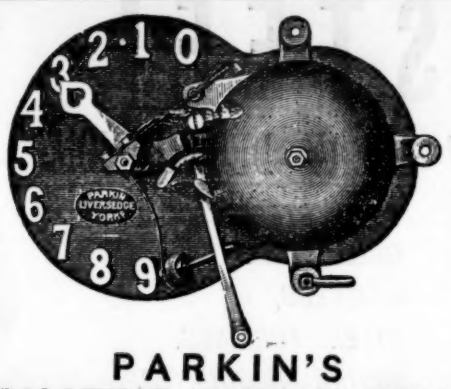

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OUTPUT ½ TO 2 TONS PER HOUR, ACCORDING TO SIZE OF MACHINE.

CONCENTRATOR TO BE SEEN IN OPERATION AT THE COMPANY'S ONLY ADDRESS,

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The Machine is superior to Sieves for Sizing Homogeneous Substances, such as Emery, Sand, and Powders, and may be used to great advantage in the preparation of Ochre.

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JOINT-STOCK COMPANIES.

NEW REGISTRATIONS.

THE following are among the joint-stock companies registered at Somerset House since our last notice:—

British Concessions (Limited).—Registered December 2 by J. J. Maley, Great Turnstile, Lincoln's Inn, W.C. Capital £10,000, in £ shares. Objects: To acquire, explore, work, exercise, develop, and turn to account any mines, mining rights, quarries, collieries, and metalliferous land, oyster beds, &c.

Bellevue Proprietary (Limited).—Registered November 24 by Vallance, Birkbeck, and Barnard, Lombard House, E.C. Capital £160,000, in £1 shares, to purchase, take on lease, or otherwise acquire, work, exercise, develop, and turn to account any mines, mining workings, claims, alluvial grounds, &c., in any part of the world

Rob Roy Gold Mines (Limited).—Registered November 21 by Sutton, Chauncey, and Rendall, 3 and 4, Great Winchester-street, E.C. Capital £100,000, in £1 shares. To acquire any mines and ground supposed to contain minerals, ores, or precious stones in West Australia or elsewhere.

St. Augustine Diamond Mining Company (Limited).—Registered November 23 by Dale, Newman, and Hood, 75 and 76, Cornhill, E.C. (capital £250,000, in £1 shares), for the acquisition as a going concern of the undertaking, assets, and liabilities of the New St. Augustine (Limited). Remuneration as the company may decide. Registered office, 30 and 31, St. Swithin's Lane, E.C.

Glittenberg Copper Mines (Limited).—Registered November 23 by Rogers, Hartley, and Gastard, 56, Cannon Street, E.C. (capital £100,000, in £1 shares), to adopt and carry into effect an agreement, particulars of which are not given, for the acquisition of a certain freehold property at Glittenburg, Telemarken, Norway, comprising about 92,000 square yards, and to acquire any copper, gold, silver, or other mines, mining rights, and metalliferous lands in Norway.

Redcastle Gold Mines (Limited).—Registered December 5 by Ewbank Pilkington, and Lewis, 3, South Square, Gray's Inn, W.C. Capital £100,000, in £1 shares. To acquire a gold mining lease known as the Staffordshire Lease, situate in the Redcastle District of Victoria, comprising about 26 acres. Registered office, 71 and 72, King William Street, E.C.

Balaghat Gold Mining Company (Limited).—Registered December 7 by Francis and Johnson, 26, Austinfriars, E.C. Capital £101,000 in £1 shares, divided into 160,800 ordinary and 434,400 10 per cent. preference shares

MINING PUMPS.—Mr. Philip R. Björling, in discussing the theory and action of pumps of various descriptions, said that before deciding as to the dimensions of pump required for a mine, they must find the speed at which the pump would work with efficiency. If everything was perfect they might expect a pump to act at the rate of 2760 feet per minute, but in practice the pump could not be driven with advantage at more than 800 feet per minute. Of course the quantity of water raised depended upon the stroke of the pump. With regard to the pump valves, he explained that it would be useless to advocate the universal adoption of one particular kind, for the conditions under which they were worked were so numerous that one special type might be quite unsuitable to fulfil all requirements. The best, and in many cases the cheapest, installation for the raising of water from the main sump and the dip workings was an electric pumping plant. The pumps and motors could be easily shifted to lower positions in the dip workings as these made progress, and the cables could be lengthened as required.

CONTRACTS OPEN:

FOR MINE, QUARRY, RAILWAY, AND ENGINEERING WORK, STORES, &c.

**** We shall be obliged by being promptly placed in possession of particulars regarding contracts open for competition, and of the results of successful tenders. In the latter case contract prices should be given.*

The date given is that by which tenders must be delivered, in nearly all cases further information can be obtained on application at the addresses given. In applying for such the name of "The Mining Journal" should be mentioned as the original source of the information, concerning which further particulars are required.

Coal, December 30 (*Henley*).—For the supply for six months and for 12 months of about 2 0 or 400 tons of best-screened large Aberdare steam coal delivered to Henley as required at per ton for the Corporation. Tenders, endorsed "Coal," to surveyor's office by 12 noon on 30th inst.

Railway Stores, December 30 (*Brussels*).—For the supply of various (eight) classes of railway stores, to be delivered at Malines, Gendbrugge, Jemelle and other places, for the Belgian State Railways. Particulars at, and tenders to, the Brussels Bourse.

Coal, December 31 (*Maidstone*).—For the supply of good household coal to the police station for year commencing January 1, 1897, to be delivered in quantities required. Tenders, specifying quantity, to be sent to Mr. Herbert Monckton, Town Clerk, by 31st inst.

Asphalte Footpath, December 21 (*Castleford, Yorks*).—For the kerbing and formation of asphalte footpath in Eastfield Lane, Castleford. Plans and specification can be seen at the offices of the Castleford Urban District Council. Tenders to be sent to Mr. Thomas Fawcett, maister, Castleford, by 21st inst.

Wood, January 4 (*Alexandria*).—For the supply of wood to Railway, Harbour, and Telegraphs Board of Alexandria. Particulars, samples, and specifications at the Gabbari Stores, Alexandria.

BLAST FURNACES IN THE UNITED STATES.—The number of furnaces in blast in the United States at the commencement of November, 1896, was 133, their aggregate weekly productive capacity being 124,077 tons. The corresponding number of furnaces in blast at the commencement of August was 173, their aggregate weekly productive capacity being 157,078 tons. The corresponding number of furnaces in blast at the commencement of May was 200, their aggregate weekly productive capacity being 187,451. The corresponding number of furnaces in blast at the commencement of November 1895, was 239, their aggregate weekly capacity being 217,306 tons. It will be seen that there has been a great contraction in the output during the last 12 months, in consequence of the disturbed condition of American finance and industry. Production is, however, now reviving. At the commencement of November, 1894, the number of furnaces in blast was 181, their aggregate weekly productive capacity being 162,666 tons. At the commencement of November, 1893, the number of furnaces in blast was 117, their aggregate weekly productive capacity being 80,070 tons.

The TREASURY GOLD MINES (LIMITED) announce that their profit for month of November has been £1233.

ST. DENIS GOLD MINE (LIMITED).

An extraordinary general meeting was held at Winchester House on Monday.—Mr. Killik, who presided, moved that the company be wound up voluntarily. He said he deeply regretted the necessity for calling the shareholders together, but it was felt that after the reports that had been received from Mr. Giffard and Mr. Barney, it was desirable to put a stop to any further expenditure of the company's funds. The collapse of the property came upon the board as a great surprise, as at the time it was acquired the highest value was put upon it. In face of latest reports, however, it was not deemed wise to throw good money after bad. Of course, all mining operations were speculative, and now the board had discovered the real state of affairs, the directors thought the honourable course to pursue was to place before them the exact state of affairs. The subscribed capital was £20,000, of which £7500 was spent in development and administration and £5400 on machinery, while they had £2100 in cash and a liability on the calls of £12,000. The vendors intended to return in full the dividend they had received, and the shareholders would have a distribution of about 8s. a share.—Mr. Hickey moved an amendment that a committee of investigation be appointed, but this was rejected, and the original resolution carried.

GOLDEN HORSE SHOE GOLD MINING COMPANY (LIMITED).

An extraordinary general meeting of the Golden Horse Shoe Gold Mining Company (Limited) was held on Tuesday, at Winchester House, E.C.—Mr. F. W. North (the Chairman) said that the business of the meeting was to confirm the resolutions passed on the 7th instant. The resolutions were as follows:—(1) That the capital of the company be increased to £100,000 by the creation of 20,000 new shares of £1 each. (2) That the 20,000 new shares when created be forthwith offered to the existing members of the company at the rate of £1 10s. per share, in proportion to their present share holding, and that the provisional agreement entered into with Messrs. Tapp and Landau, as now read to the meeting, with respect to the guarantee of the said 20,000 shares, be, and is hereby, approved and confirmed. Provided these resolutions were confirmed the whole of the details were in perfect orders, and as early as possible the shareholders would, in all probability, receive a circular from the secretary, which they could fill up for the number of shares they wished to take. The arrangement was that each shareholder could apply for one new share for every four shares he now held in the company.—The Chairman then moved the confirmation of the resolutions, which was seconded by Mr. Jenkinson, and unanimously agreed to.—A vote of thanks to the Chairman closed the proceedings.

Interest coupon No. 1 of the 5½ per cent. first debentures of the GOLD FIELDS DEEP (LIMITED), due January 1 next, will be paid, less income-tax, on and after that date, at the African Banking Corporation (Limited), 43, Threadneedle-street, E.C.

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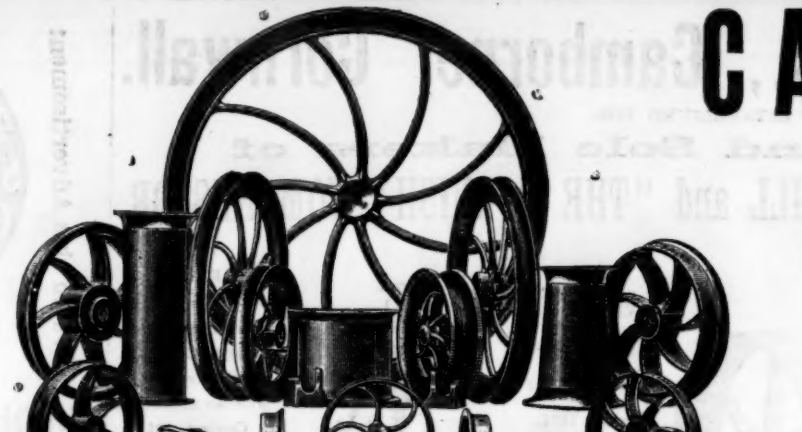

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ALUMINIUM.

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AGENTS FOR THE BRITISH ALUMINIUM COMPANY, LIMITED.

SOME ECONOMIC FEATURES IN CONNECTION WITH MINING ON THE WITWATERSRAND GOLD FIELDS, SOUTH AFRICAN REPUBLIC.*

By EDGAR P. RATHBONE.

(*Concluded from page* 1571.)

Food Supplies.

It will be seen from the general statement of costs that an amount of a quarter of a million sterling is expended on food supplies for the natives. This is equal to about one-eighth of the total cost of wages for natives. The price of mealies, better known on this side as Indian corn or maize, varies very considerably, being as low as 10s. and as high as 30s. per sack of about 200 lbs. in weight. As a rule, Kaffirs are given from 2¼ to 3 lbs. of mealie meal daily, and about 1 lb. of meat a week, at a cost of 2½d. to 5d. a lb. The proposal which has been made for the natives to pay for their own food is worthy of consideration, though with most companies, as matters now are, there is very little actual waste. Still, it is a wrong principle to give a labourer his food; it is better that he should understand that he has earned it by his own exertions. At the present time a great portion of these food supplies are imported into the State. The principal reason why a sufficient corn supply is not grown in the country is primarily due to the excessive cost of Kaffir labour, since the Kaffirs will naturally not take a lower wage than they can get at the mines, and, as the farmer cannot possibly afford to pay such a high rate, very little land is brought under cultivation at the present time. If, however, Kaffir labour were to be prohibited underground, the Kaffirs thus thrown out of work would have to seek employment on the surface, and, as it would then be possible to greatly reduce his wage, there would be plenty of cheap labour for agricultural purposes. In this manner, the cost of corn and other food supplies would, as a consequence, become much cheaper, both for white and black labour.

Candles and Paraffin.

An amount of £95,000 is apparently expended, mostly in underground illumination.

Those who are acquainted with underground work on the Witwatersrand are aware of the great waste and extravagance in candles which is frequently found to exist in many mines. Here, again, the natives are the principal offenders, as they often steal candles, and even use them as an article of diet or to grease their bodies with. Now, these candles are of the best manufacture, costing from 13s. to 15s. a box, and are generally Price's manufacture. Again, in the deeper mines, where strong ventilation is frequently necessary in order to remove the dynamite fumes quickly, there is a great waste in candles, as they burn and gut down very quickly in a strong draught. A good remedy would be by the introduction of electric light wherever it is possible, and it is hoped that the time is not far distant when an underground portable electric storage lamp will be manufactured so cheaply and light in construction as to render its general use economical and possible. The cost of candles on the ton of rock mined amounts to between 3d. and 4d., which, as compared to the cost of lighting in European coal mines, is enormous.

*A paper read before the Institution of Mining and Metallurgy.

Steel, Iron, and Tools.

Of late years some of the larger mines have paid far more attention to the importance of laying down rails in the mines of sufficient weight and in such manner as to enable the tramming of the underground trucks to be carried on expeditiously and economically. There cannot be the least doubt that it pays handsomely to put down a fairly heavy section of rail, that is, in the neighbourhood of 25 lbs. weight per yard, and to lay these rails upon wooden sleepers, in place of the old iron sleepers, and bolted down on proper chairs; in fact, in a small way underground to do what is done with a railway on the surface, particular attention being paid to obtaining a good level and well-ballasted road bed. At the present time, at most mines far too many natives are employed in tramming, due to this improper laying of tramlines and to the too great weight of the tramcars. It is now only too frequently the case to find tramcars derailed and requiring four or five natives to replace them. To remedy these evils, besides the one already suggested, it is recommended that there should be a much more liberal employment of ponies or mules underground, which, of course, would necessitate in most cases far longer lengths of levels on which the tramming could be carried on. It is such points as these, which are capable of showing such great reductions in the cost of working, when several gold mines are amalgamated into one large concern.

The large cost of iron and steel is also partly due to excessive wear and tear in drills, picks, shovels, &c., through their unskilful handling by unskilled labour—that is, again, Kaffir labour.

General Conclusions.

In the foregoing remarks on costs of working it has been endeavoured to suggest in each instance, some means by which the cost of working on the Witwatersrand gold fields may in the future be reduced. As a rule, Johannesburg mining men and capitalists, who in their capacity as directors are frequently most largely interested in the gold mines, are fully alive to the importance of all the different points that have been brought forward in this paper, and, doubtless, as time goes on, and those who are now in power in the State are replaced by more enlightened and educated men, it will become practicable to make many of these suggested improvements. It is, therefore, of the utmost importance to decide as far as possible which particular beds of auriferous conglomerate carry such an even amount of gold, as would make them profitable to work on a large scale under such altered conditions. From the author's own experience, after sampling a large number of these auriferous beds, especially those lying to the south of the main reef series, variously denominated, but generally known as the Kimberley and Rass series, &c., also those which form the continuation of the main reef series to the east and west of Johannesburg, in the districts of Heidelberg and Klerksdorp, and, in fact, the main reef itself on many properties which now only work the south reef or the main reef leader; there are frequently found sections of ground which would mill from 4 to 6 dwts., that is a value of from 14s. to 21s. per ton. Under present conditions this amount of gold would only barely cover working expenses, and only then when worked on a very large scale and under the most favourable circumstances. It is, however, only a question of time when such beds should be most profitable to work, leaving a margin of profit equal to from 5s. to 10s. a ton. If this be the case, it follows that there are large areas of ground on the Witwatersrand which are well worth paying claim licenses upon, even though such expenditure should extend over the next few years. It is probable that outside the regular working companies situated on the main reef for a distance of (say) 15 miles on either side of Johannesburg, that with rare exceptions there are very few beds of auriferous conglomerate which would not prove to be of this low grade nature when milled on a large scale, although the mining prospector, or expert holding a brief, naturally frequently finds places where samples can be obtained giving ounces of gold to the ton. It is, therefore, of importance for the European public to understand that in order to profitably work such low grade deposits, a very large working capital is required, and also that some considerable time must elapse in order to actually develop sufficient ore reserves, to supply mills ranging from 100 to 200 head of stamps. In short, generally speaking, the companies formed to work such deposits would require to possess, in the first place, a large area of claims; secondly, a working cash capital ranging from £100,000 to £200,000, and must further understand that fully two years of steady development would have to elapse before any mill should start working. On the other hand, it must be conceded that when once it has been ascertained, either by the erection of a small mill or through careful and systematic sampling, that any bed of auriferous conglomerate does carry a small but evenly distributed quantity of gold, that the working of such deposits presents far more mining certainties of final success than probably any other since gold alone, of all metals or minerals, has a constant value, and is not subject to extraordinary fluctuations in market value.

THE HAYCRAFT PROCESS.—The following report on the Haycraft gold extraction process has been supplied to the South Australian Minister of Mines by Mr. J. G. Woolcock, manager of the Mount Torrens Cyanide Works:—In reference to the Haycraft Gold Extracting Company, I have visited the plant at East Adelaide, and gained all possible information as to the construction and mode of working that can be seen from inspection. It consists of electrolytic chlorination and electro-amalgamation, both being effected in the same vessel at a boiling temperature, as described in the prospectus. Several advantages are claimed by the company—viz., that it is effective for coarse and fine gold, the cost and weight of plant are very little, very little water is needed, and time required is much less than with other processes. As to the efficiency of the process I am unable to state definitely, as it requires practical experience, and we have no plant at work except this experimental one at East Adelaide, where only small parcels of stone have been treated. The results given by the company in its prospectus are all of high percentage, the parcels of stone being very rich, most of which were not refractory. An example under our notice at present is a parcel of tailings received from Mr. R. Oswald. These tailings, after being treated by the Haycraft process, were forwarded to us for treatment by cyanide, and from 2 tons 4 cwts. of tailings we recovered 4 ounces 12 dwts. 5 grains of gold. In reference to the royalty charged by the Haycraft Company being only 2s. per ounce this is practically higher than the royalty charged by cyanide process, which is on the gold extracted by cyanide only, whereas we extract a greater percentage of gold by battery for which there is no royalty, and the royalty charged by the Haycraft process is on the total gold recovered. The Haycraft process, being comparatively a new method of extracting gold, and really having had no long trial, I am doubting as to its efficiency for a public crushing plant, where all classes of ore have to be treated.

MINING IN VICTORIA.

THE SULPHUR RESOURCES OF THE PACIFIC ISLANDS.

(FROM OUR OWN CORRESPONDENT.)

"COMING events cast their shadows before." It is, of course, absolute folly for anyone to pretend to say what the outcome of the Anglo-Sicilian Sulphur Trust will be, and quite as absurd not to recognise the activity going on in these parts, principally by the representatives of European financiers in preparing to meet and break down what threatens to become a gigantic monopoly. A distinguished scientific writer has laid it down that the prosperity of a nation can be estimated by the quantity of sulphuric acid it uses, the reason being that sulphuric acid enters so largely into more important industries. As affecting the mining industry, its actual relation is chiefly with the manufacture of explosive and sulphuric acid, the latter being one of the principal agents in the chlorination process of gold saving. If, then, the action of the Trust should be to force prices beyond a substantial basis as to disorder trade relations, or impede its development, they are sure to bring around themselves a battlefield of competition.

The drift of affairs with regard to the matter must be viewed with deep interest by all who pay attention to the issue. The natural sequence to this experimenting has been that within the last few months capitalists have put out their feelers, and seized on the means of meeting the struggle in a way that promises to promote the welfare of the British Empire in building up national influence in the Pacific islands, by the investment of English capital in commercial and mining enterprises. It is a favourite saying that "trade follows the flag," but in the experience likely to follow to keep the Anglo-Sicilian Trust in restraint, it would be more correct to reverse the order, and say that it will be the flag that follows the trade; and it is the fact that the probable rise in the price of Sicilian sulphur will, in due course, and perhaps before this appears in print, cause the sulphur islands that encircle Eastern Australia to become the starting point and the basis of wresting from Sicily that supremacy in European and American markets which it has so long held. I have before me at this moment copies of the reports of Captain Richard Hays, who for many years has been in the employ of Melbourne shipowners, engaged in roving the Pacific in quest of guano islands, and Mr. G. Thureau, F.G.S. (late Government Geologist and Chief Inspector of Mines, Tasmania; and the Victorian Government delegate to California a few years back to inquire into mining in that territory).

These gentlemen have been commissioned by English capitalists to report on the sulphur resources of Vanua Lava. Capt. Hays states:—"One can readily perceive on examination an important feature of the island—namely, the great thickness of the layers and the general good quality through which the sulphur is deposited from the crude sulphur earth up to the clean, bright, yellow, pure brimstone. On a rough estimate there cannot be less than about 1,500,000 tons of native sulphur lying near the surface available to be mined." A long description is given of the shipping facilities at Port Patteson, and the conveniences for transport from the sulphur beds to the port, about 5 miles, all of which Captain Hays refers to in satisfactory terms. That efficient labour is abundant for ordinary mining work at from £6 to £8 per year. That native food, wood, and water is plentiful and handy. He confirms previous published reports on the island, and feels warranted in saying that "mining for sulphur on Vanua Lava must prove lucrative."

Mr. Thureau refers to having met Captain Hays, and that the sulphur can be produced for "(say) 6s. per ton." In a lengthy descriptive report on the various grades of ore found there, he gives the results of four analyses:—

"No. 1.—An almost pure sulphur, light yellow in colour and highly crystalline in structure, yielding 99·68 per cent. sulphur.

"No. 2.—Greyish in colour, through which sulphur is strongly diffused in cavities, crystals may be discerned, yielding 67·80 per cent. sulphur.

"No. 3.—A sulphuretted crust at surface as the result of 'fumaroles,' yielding 59·68 per cent. sulphur.

"No. 4.—An older formation—viz., a trachyte rock of a deep grey colour sulphur in the cells, yielding 48·80 per cent. sulphur.

"No. 5.—Obtained from the gravels of the Gapuna River, principally consisting of pure sulphur, either in the solid, or by means of efflorescences on the outside."

Other minerals, such as red ochre of very good quality, and associated sulphuretted emanations, are referred to in the report. Mr. Thureau, in comparing the Vanua Lava and Sicilian deposits, says:—"The Pacific sulphur deposits are much richer on the average than those of Sicily, while the winning of the ore appears likewise to be in favour of the former. These ever-renewing sulphur deposits are the result of decomposing—beneath the surface—sulphurets of metals. It would, therefore, be not only interesting, but likewise valuable, to ascertain what metals are thus undergoing chemical dissolution, causing a higher temperature all round." Referring to the standard grades of Sicilian ore, on the authority of M. Parodi, the following table is given:—

		Per cent.		Per cent.
Very rich Sicilian ore, from	30 to 40,	actual yield	20 to 25
Rich	" " "	25 to 30	" "	15 to 20
Poor	" " "	15 to 20	" "	10 to 15

Or an average of about 22 per cent. pure sulphur.

Contrasting these different grades with the Vanua Lava products, Mr. Thureau says:—"The results are much more satisfactory—viz., 68·99 per cent. pure sulphur. While a small reduction may be allowed on account of no actual practical extraction by kiln having taken place, still the results would be nearly treble of those obtained from Sicily."

It is worthy of note that Phœnix Island, Gardner Island, Sydney Island, Enderby Island, Baker Island, Howland Island, Jarvis Island, Starbuck Island, Penhryn Island, Christmas Island, Fanning Island, Washington Island, Canton Island, Hull Island, McKean Island, Bird Island, Coral Island, Maldon Island, and the Chesterfield Islands, all in the Pacific, are at present being worked by Colonial, American, and English companies for guano. Vanua Lava, with a fine harbour and unbounded sulphur resources, ought to have a great future before it if properly managed, bearing in mind that a judicious and conciliatory treatment of the natives is of the first importance.

THE BENDIGO GOLD FIELD.

No territory belonging to Victoria can possess a greater interest to its citizens than Bendigo. The position of many of the mines is such that their intrinsic value will be more positively demonstrated this year than ever before. While all other gold fields within the colony—in particular, Gippsland—exhibit magnificent results for the past, and give the firmest assurances for the future, still their importance vanishes before that of Bendigo. It is the one field in Victoria that has been singularly free of booms, and where the market value of the mines bears a closer relation to actual values than any other field in the colony, and, without doubt, in Australia. The most sensitive fluctuation in market prices is the genuine result of favourable or unfavourable operations in the mines. Bendigo stock finds no favour with speculators; it belongs to that category in which to realise profit a buyer has to "sit upon" it. The long experience attained has established Bendigo mining upon the same basis of certainty which characterises manufacturing and other pursuits, and local investors look upon it much in the same light as mercantile or commercial business, and attended with no more risk or uncertainty than these. It has been a gradual building up by entirely local capital, and the vast enterprises one sees spread over an area of about 18 square miles has been accomplished by the gold won from the mines themselves, and self-sustaining afterwards.

Practically, till within the last year or so, Bendigo has been a close corporation; it neither wanted nor encouraged outside capital. The innovation on the old order of things is due to Messrs. L. A. Samuels and H. Etherington, who are the pioneers of introducing English capital to the field in the way of English companies, and at the present hour they have not overcome local prejudices to the new system. Two powerful organisations are at work for the development of the field—the one may be called the English party, working through the medium of the Bendigo Gold Fields Company (Limited), controlled locally by Mr. L. A. Samuels, M.E. (manager), and the Hons. J. Sternberg, M.L.C., and D. C. Sterry, M.L.A. This is the "boss" company. There are two or three other smaller and distinct English companies, but their influence is scarcely felt locally. The other powerful party is the Bendigo District Development Association, whose moving spirit is Mr. Alexander Bayne, J.P., and the outcome of whose labours is seen in the increased output of the mines during the last two years, and the formation of the Bendigo Mines Development Company (Limited), to test the side lines of reef between the Hustler's and Garden Gully lines, a full account of which will be given when the mines are being described in detail. The Bendigo Development Association, through Mr. Bayne as its mouthpiece, aims at encouraging the introduction of English and outside capital into Bendigo mines, local companies, and controlled on the spot.

The argument is that every penny subscribed by English capitalists to local companies goes directly into the mines for development work, and without the danger of over capitalisation attending the usual run of English companies. However, both schemes are having a trial. The English public readily took up the 32,000 shares which the Bendigo Development Company sent home to be placed, and Mr. Bayne has more than once, in conversation with me, referred with pride to the fact that every sixpence of the money was placed to the credit of the mine. On the other hand, it may be said to the credit of English owned companies under Mr. Samuels' charge, that they go heartily to work and mine for "all its worth."

There is no piecemealing and pottering with them; they furnish a substantial working capital at the start, put up powerful and efficient plants, and if they get on the gold they become paying concerns at once; whereas, under the local system, small working capitals are furnished, appliances are erected in a piecemeal sort of fashion as the funds are earned, and nobody looks for dividends until the mine is properly equipped, which usually means a period in the life of English companies, when they are either something or nothing. Observing events closely, I am satisfied the colonial system would not satisfy the majority of English investors. It is too long a wait. On the other hand, many of the more solid concerns are recognising that the days of small working capitals are past. Large tonnage of low grade ores is the thing mostly sought for by companies seeking a permanent existence, and this means the purchase of the best gold-saving appliances and scientific methods of working.

This means capital, and a mine starting with a working capital of £20,000 has a better chance of paying dividends to shareholders than one starting with £9000. But it will take a long time to break away from old customs, and I know many investors who refuse to subscribe to local issues mainly because the working capital stated in the prospectuses are not large enough to carry the shafts down.

For this reason I plump solidly for the big working capitals of English companies, and before this series of articles upon Bendigo mining now commenced are closed, I shall have opportunities of hearing the pro's and con's on the merits of the case, and I promise those Bendigonians who will take the trouble to place facts before me, that their views shall be presented in this column. In placing an exhaustive view of Bendigo mining before the English public, which will necessarily extend over several months, arrangements have been made that I shall devote two days in each week to visiting the mines, during which time I have no doubt I shall see much that is new, and hear many sides of the question. It is only just to say that I approach the work without any mission to advocate or bolster up this or that party, or particular company. I know it will be difficult to reconcile myself with both camps—those who want Mahomet to come to the mountain, and those who are taking the mountain to Mahomet. However, I shall serve the interest of both parties if I simply confine myself to telling Mahomet (the English investor) what the mountain is made of, and leave him to decide in his own mind which way he reaches it. Therefore, I freely accept the invitations of both parties which have reached the local office offering to gather information for this work, and to place every facility in my way for inspecting the mines.

During the course of these articles I shall have to make a free use of the tabulated matter which appeared in that excellent weekly Journal, *The Bendigonian*. In the November 5 issue, the paper gave a large plan of the main lines of reef and statistical details of all the mines working the different lines. The whole details are brought up to date, and in making this acknowledgment of using its columns, I feel assured no one will be better pleased than the proprietors (Messrs. Mackay and Co.) themselves, who have most patriotically assisted the work of the Bendigo Development Association by rendering their Journal a reliable register of the Bendigo gold field. In having the advantage of these details at my hand, which have been compiled with a degree of accuracy and care seldom met with in productions of the kind, a double service is performed in placing them before a wider sphere of readers, and extending their utility in directing the attention of English capitalists to the gold lands of Bendigo, the result of which, it is hoped, will be beneficial to the colony, as well as to the individuals who may be tempted to take a hand in developing the vast resources of this region. Nature has marked out Bendigo as the one point in Australia which surpasses all others in richness. It is clothed with such strong characteristics, exhibits such surprising magnetic intensity, and such positive improvement the more mining is judiciously prosecuted, that, from an honest conviction, one is obliged to believe that it will serve as the foundation of permanent wealth, not only to the present generation of Victorians, but to their children, providing the mines are worked with the skill and economy as at present.

With English capital flowing into the field, combined with enterprise and genius in the progressive spirit of the people themselves, Bendigo will shortly witness an advent of a second "fifties," an era when 60,000 diggers in 1852 produced from this and a neighbouring locality gold to the value of £14,000,000. Now, what English capitalists require to be told—and the purport of these articles is to tell—is that while the Bendigo gold field occupies an area of 1100 square miles, or 704,000 acres, within the whole of which there are numerous quartz reefs which have been proved to be auriferous, only the main or central portion of the field, comprising about 6000 acres, are actually being worked at present. This includes the country from about half a mile beyond the Spring Gully reservoir on the south to over a mile beyond Eaglehawk on the north, with a general width of about 2¼ miles. Outside of this area are two historical lines of reef, Bird's reef and Tyson's reef. An English-owned company, the Frederick the Great, is operating at Sebastian, in the northern end of the extreme area; and on the extreme south some companies have been floated at home during the last few months through the instrumentality of Mr. Bayne, jun. Within the southern boundary of the main eight miles area is a cluster of English-owned companies, controlled by the Bendigo Gold Fields Company (Limited). These comprise the New Chum and Southern New Chum group and the Pick-o'-the-Field, all of which will be dealt with in separate articles. The local directors of the latter mine performed the ceremony of starting its machinery on November 3 last, in the presence of a distinguished company, and with much *eclat*. I received an invitation to attend the function, the particulars of which, and a description of the mine, will be the subject of my next letter.

The statistics I present below clearly demonstrate the value of this important field. As the quartz returns have just been published, I give a few items from these before summarising the whole. The yield for Bendigo for the nine months ending September 30 was 142,265 ounces of gold. Compared with the yield for the corresponding period of 1895 there was an increase of 25,953 ounces.

The following are the official records of the account of gold purchased by the various Bendigo banks from November, 1851, to the end of June, 1896:—

Year.	Ounces.	Year.	Ounces.
1851	260,000	1875	295,012
1852	475,857	1876	275,220
1853	661,749	1877	177,060
1854	429,983	1878	168,904
1855	451,588	1879	172,254
1856	609,729	1880	172,629
1857	492,431	1881	169,965
1858	447,712	1882	202,269
1859	403,891	1883	220,158
1860	346,603	1884	219,160
1861	298,442	1885	216,772
1862	231,514	1886	177,546
1863	199,010	1887	163,010
1864	192,617	1888	174,581
1865	180,961	1889	148,701
1866	212,804	1890	155.091
1867	221,552	1891	152,076
1868	217,016	1892	199,294
1869	225,258	1893	212,636
1870	241,380	1894	173,283
1871	283,825	1895	182,969
1872	346,992	1896 (first half)	99,870
1873	329,452		
1874	313,970	Total ..	12,243,477

Approximate estimate quantity of gold taken away to Melbourne and to other places in the early days, 4,000,000 ounces, or altogether a grand total of 16,243,686 ounces, valued at £64,974,700.

The following table will show the dividends each year since 1871:—

Year.	Dividends.	Year.	Dividends.
1871	£434,276	1885	£286,366
1872	683,140	1886	191,321
1873	628,066	1887	134,920
1874	500,615	1888	178,790
1875	342,865	1889	118,473
1876	404,695	1890	149,381
1877	103,015	1891	148,937
1878	164,325	1892	268,263
1879	109,635	1893	248,005
1880	214,552	1894	125,679
1881	250,717	1895	136,282
1882	333,472	1896 (first half)	90,575
1883	320,731		
1884	318,048	Total ..	£6,885,144

The above are the returns from a field which has been worked continuously since 1851, the year alluvial gold was discovered in Bendigo. In 1855 quartz mining was initiated, and for over 40 years thousands of miners have been working the central part of the field, in the narrow dimensions already stated. A visit to the field will easily satisfy anyone that it still holds out prospects for the investment of capital, such as no other gold field in Australia can offer. In proof that Bendigo is only keeping pace with the general progress of the colony, a few closing remarks on the general position will serve to demonstrate that Victoria's prospects have been steadily on the improve. In 1891 the yield of gold was 596,399 ounces, and 23,526 miners were employed. Last year the yield was increased to 740,086 ounces, and the miners numbered 30,000. The yield was the largest that had been obtained since 1884. It was estimated this year it would be 800,000 ounces, so that between £3,000,000 and £3,500,000 would be added to the wealth of the colony. The yield of gold for 1895 in Victoria was more than that of New Zealand, Western Australia, Tasmania, and South Australia combined, more than double that of New South Wales, and equivalent to nearly £500,000 over that of Queensland. Upon a proper showing, and with a statement of the true merits of Victoria's resources, supported by the most convincing proofs what a field like Bendigo can produce, there is little doubt of capitalists being induced to come forward and invest their money in a centre of prodigious enterprise, and the source of individual and inexhaustible national wealth.

THE SCHOOL OF MINES, KINGSTON.—It has been decided to erect a blast furnace and cyanide plant in connection with the School of Mines, Kingston, Ontario. The blast furnace will be located in a separate building contiguous to the stamp mill, and will be capable of smelting 5 tons of ore daily.

TWENTY-FOURTH ANNUAL DINNER OF THE OLD STUDENTS OF THE ROYAL SCHOOL OF MINES.—Arrangements have been made to hold this dinner at seven o'clock on Tuesday, January 26, 1897, at the Criterion Restaurant. The chair will be taken by T. K. Rose, Esq., D.Sc., Assoc.R.S.M., of the Royal Mint.

OUR contemporary, the *African Review*, presents gratis to its readers this week a new map of the West Central section of the Witwatersrand Gold Fields, and which covers the whole of the main reef series west of the City and Suburban Mine. With the same issue is presented a supplement consisting of a portrait group of Rhodesia's defenders, and a new and complete story by Mr. A. E. W. Mason

MEETINGS OF MINING COMPANIES.

MENZIES GOLDEN AGE MINE, LIMITED.

The second ordinary general meeting of the shareholders in the Menzies Golden Age Mine (Limited) was held on Monday, at Winchester House, E.C., Mr. SINCLAIR MACLEAY (Chairman of the company) presiding.

The SECRETARY (Mr. George A. S. Warrand) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—I regret to say that owing to the fact that some of the Colonial accounts have gone astray in the post, it is impossible to submit the accounts of the company to the present meeting. We have cabled out, and it has been decided to make the accounts up to December 31, have same audited, and then call another meeting as early as possible—certainly not later than the first week in April. Under these circumstances, we propose to make this meeting purely formal to comply with the Articles of Association. I am happy to inform you that owing to the careful advice of our resident director, the Hon. Maurice Hume Black, who is a man of large mining experience, we have not recklessly spent your money (as so many companies have done) in ordering machinery on to the ground long before developments were sufficiently forward, but have pushed ahead with developments first, and still have considerably more than half the working capital of the company available. It appears to be a peculiarity of the entire Menzies district that, owing to some disturbance, a break occurs in the reefs, and they cut out at a depth of 60 or 70 feet, the country becoming very unsettled, and then make again at a lower depth into true fissure reefs, and it will interest you to know that Mr. Black and your mine manager (who is a most careful man and a thorough miner) both feel perfectly certain that, like other Menzies mines, we shall again strike the main reef at the 150 feet level on which we are now driving, and we are expecting every day to receive a cable telling us they have cut the reef, which I need hardly say will open up large bodies of ore. I may just mention that Mr. Black states in his last latter that they had just struck the overturn of one of the reefs which goes 2 to 3 ounces to the ton. As you know, we have struck water, and our latest advices tell us that it is increasing, so that we do not anticipate any trouble on that score, more especially as they have come across some deposits of calcium carbonate in the water shaft, which is always looked upon as being a good sign of plenty of water. So confident is Mr. Black, that he tells us that the time is now rapidly approaching when we must entertain and consider the question of erecting machinery. Owing to the rapid development of the railway system out in Coolgardie, the decrease in the cost of transit at the present time will alone show an immense saving to the company. The Menzies Golden Age has been opened out in a very thorough and workmanlike manner, and although at the moment it is mostly dead work, we shall reap the full benefit of this later on. You have all, no doubt, seen the splendid results made by the Lady Shenton. Well, you will see by Mr. Schmidt's report, sent out with the notice of this meeting, that he has traced their reef through the two intervening blocks straight through our property, hence it is only a question of a little time for us to again strike the same reef at the lower levels in settled country. You will have noticed that they (the Lady Shenton) like ourselves in our trial crushing crush over 7 ounces to the ton, and we, your directors, have every hope that with time your mine will prove equally valuable. I do not think I have any more to say, and now formally propose that the report be adopted. (Applause.)

Mr. HUGH ASTLEY seconded the resolution, and it was carried unanimously.

Dr. FORD-WEBB, in moving the re-election of Mr. Hugh Astley as a director, said the position of the board in the past year had been a very difficult one, and he considered that they had husbanded the reserves of the company in a very careful manner. Had it not been for the fact they had displayed in the management they would have been in a similar position to many other West Australian companies, and would have had to reconstruct the concern for the purpose of raising more money. A very considerable sum had been saved through the machinery not being ordered before, as the freightage charges had now decreased from £40 a ton to between £14 and £20.

Mr. LEWIS seconded the motion, and it was carried.

Mr. ASTLEY, in responding, said he was very glad to think the shareholders were satisfied with what the directors had done in the past year.

The CHAIRMAN mentioned that the present freightage charges to Menzies from Coolgardie was £13 per ton. He now had to declare the meeting adjourned until such time as the colonial accounts were received and could be presented to the shareholders.

Mr. CLARE moved a vote of thanks to the Chairman and directors.

Mr. BUCKLER seconded the motion, which was heartily agreed to.

The CHAIRMAN, in response, said he could only promise that they would do their best for the shareholders in the future as they had done in the past. Their object was to bring the mine into a dividend-paying state as soon as possible. The last report from Mr Black encouraged them in the belief that they would be able to order the machinery before very long. He felt quite sure that the water difficulty would be overcome—in fact, water was making in the shaft now. (Applause.)

The meeting was then adjourned *sine die*.

LISBON-BERLYN, LIMITED.

The fourth ordinary general meeting of shareholders in the Lisbon-Berlyn (Limited) was held on Monday, at the Cannon-street Hotel, the chair being occupied by Mr. NICOL BROWN.

The SECRETARY (Mr. C. P. Simpson) read the notice convening the meeting.

The CHAIRMAN, in moving the adoption of the report and accounts, went at some detail into the different items in the balance-sheet, explaining that the items of calls unpaid had been reduced by £41, making the balance at credit of capital account £153,747. The amount of £6375, at the credit of share premium account, stood as in the previous balance-sheet, and it was proposed eventually to carry the sum to a reserve account, which it was hoped to build up in the future. The mines, farms, concessions, and mining rights stood, as in the last balance-sheet, at £83,177. The amount at debit of development, general expenditure, and revenue account—viz., £22,996, was brought forward, and to this had been added the balance of working, prospecting, and general expenditure for 1895 96—viz., £2691, making together a total of £25,687. Against an expenditure at the mines on working account and general charges, amounting together to £25,726 11s. 11d., they had a credit of £25,188 3s. 6d., represented by proceeds of bullion sold, stocks of ore on hand and incidental receipts at mines, leaving a small balance at debit of £538 8s. 5d. Had the company been fortunate enough to have had the cyanide plant fully at work in the month of June, as had been hoped, there was no doubt that there would have been a balance on the right side of the working account. August, however, was the only month during which they had had 11 vats in full work, and the amount of bullion then recovered showed a working profit of over £900. One very important part of the year's work was the large increase in the amount of ore in sight. By referring to the plan of the Theta reef workings which accompanied the directors' report it will be seen that whereas at September 30, 1895, they had only about 11,000 tons in sight, they had now 24,500 tons well proved by drives, crosscuts, &c. Another item to which he might refer was the invested funds, which, standing at cost, amounted to £26,614, and were refreshented by the following:—5000 Consolidated Gold Fields Six per Cent. Preference; 8350 South African Gold Trust Six per Cent. Preference; 2000 African City Properties Five per Cent. Debentures; 3000 Queensland Four per Cent. Bonds; 7500 Lydenburg (Transvaal) Gold Shares. The mining costs remained a fairly steady amount, but the reason the cost for mining had gone up was that, owing to the drought and rinderpest regulations the mealies and stores had become more expensive. The milling and dry crushing costs had been reduced from 2s. 6d. per ton to 1s. 4d. per ton, the bulk of the ore merely passing through a series of rock breakers, and it was possible that the cost may be still farther reduced. Our cyanide cost showed a small decrease even working under difficulties compared with the previous year—viz., 6s. 5¼d. as against 6s. 8¼d., and when the new plant was in full working order it was believed that the cost would show a farther decrease. To the cyanide working cost they must add the 5 per cent. royalty which for last year amounted to 1s. 7¾d. per ton, making in all 7s. 9d. per ton of ore treated. The general charges looked high, but only because they were divided by a small tonnage as yet treated by the process, but when the present crushers and cyanide vats were working to their full capacity of over 30,000 tons per annum the rate for general charges would work out at much less per ton. It might roughly be said that the average total cost in the Rand was 30s. per ton, or 3s. more than their own. He might state that the actual contents of gold per ton of ore would bear comparison with the Rand mines, and the average mines' assay for October showed 12 dwts. per ton, and there were indications that November would be still higher. The average monthly working for last year was as follows:—October to December, 1895, 1224 tons; January to March, 1896, 1479 tons; April to June, 1896, 1492 tons; July to September, 1896, 1479 tons. The last quarter was affected by the unfortunate stoppage in September, owing to the transport difficulty. The rate per ton of general charges at the mine always appeared high on a comparatively small output, but in order to get good results they had to keep competent men on the staff, and it was expected that in the near future they would get a much larger output from their exertions. With respect to the other items in the account, the profit on investments amounted to £2004, and the interest on actual investments to £1101 18s. 10d. Some investments were sold, but delivery was never taken, and during a considerable period contango was paid upon them, which amounted to £902 7s. 6d. In conclusion, the Chairman said he had much pleasure in acknowledging the able services and assistance of the staff, both at home and abroad, in the faithful carrying out of the policy of the board. He was sure when the company at last became dividend-paying their labours would be remembered by the grateful shareholders.

Mr. C. B. DOBSON seconded the resolution, which, after a few remarks from Mr. MCHARDY, Mr. GILBERT and others, was unanimously agreed to.

On the motion of the CHAIRMAN, seconded by Mr. DOBSON, the following resolution was also agreed to:—"That the amount of £25,687 12s. 10d., standing at the debit of development, general expenditure and revenue account, be treated as capital expenditure, and be transferred to the cost of mines, farms, concession, mining rights, &c."

Mr. DOBSON proposed the re-election of Mr. Nicol Brown as a director. He added that the change in the fortunes of the company dated from the time that Mr. Brown had joined the board. (Applause.) He was a shareholder in a good many mining companies, and he often wished that they were under the able direction of Mr. Brown. Not only had the Chairman given his daily attention to the company's affairs, but his knowledge of all matters connected with mining was of the utmost advantage to the company. He was able to bear his tribute to the conscientious manner in which Mr. Brown had discharged his duties. The Chairman also had shown great discretion in the selection of the staff, for it would be impossible for any company to have in its employment a more efficient and devoted a body of men. (Applause.)

Mr F. C. HOLLAND seconded the resolution, which was carried by acclamation.

The auditors, Messrs. Monkhouse, Stoneham, and Co., were next reappointed.

On the motion of Mr. MCHARDY, seconded by Mr. GILBERT, a cordial vote of thanks was passed to the Chairman and directors, and the compliment having been acknowledged, the proceedings terminated.

THE NEW OPTIONS, LIMITED.

The first general (or statutory) meeting of shareholders in the New Options (Limited) was held on Tuesday last at the offices of the company, 6, Queen-street-place, E.C., the chair being occupied by Mr. EDGAR TAYLOR.

The SECRETARY (Mr. John Garland) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—This meeting is our first ordinary general meeting, which we are required under a particular section of the Companies' Act to hold within four months of the registration of the company. As is usual on these occasions, we have no resolution to submit to you, and no special business to transact. Our company was registered on August 28 last, and by September we had received subscriptions for, and allotted, the full number of shares, which, by our prospectus, were offered for subscription. You will remember our prospectus stated that we were to take over the assets of the New Options Syndicate and to carry on the farther development of the mining property and the carrying out of its objects—particularly the development of the Monarch Mine on an enlarged scale. Our company having been so successfully formed, we did take over the assets, and, in addition to our other business as an Options Company, we have, since September last, been working the Monarch Mine with most satisfactory results. Our prospectus gave you a history of the discovery and opening up of the Monarch Mine as far as July last, since which time active operations have been carried on. We have continued to sink the shaft, and in October at a depth of 100 feet a shoot of rich ore was struck, which Mr. Davey, the superintendent, reported to be very similar in appearance to the seam met with nearer the surface. At 110 feet again he informed us that the shaft was in high grade ore, the width of the vein being 6 feet, estimated to contain 5 ounces to the ton (of this you were informed in the circular of November 3), a crushing was made of ore from this portion of the shaft, which yielded from 35 tons 250 ounces. The last news we have as to our underground operation, contained in a cablegram dated December 10, is also highly satisfactory, the shaft having, on December 10, reached a depth of 132 feet, the average width of the lode being 9 feet, the grade of ore continuing to be a high one. In this message Mr. Davey said he was crushing the ore, and should clean up in the course of last week; he added that another independent shoot of high grade ore had been struck in the bottom of the shaft. We have received a message giving the result of this clean up, which shows that 23 tons of ore have given 295 ounces of gold, equal to a yield of nearly 13 ounces of gold per ton of ore. The cablegram adds that this return is not inclusive of gold contained in concentrates. Your board consider this information from the mine to be the most gratifying:—"Our present crushings have been upon a limited scale, as it has been necessary to cart the ore to be crushed at the Harrietville mill, which is some 6 miles away from our mine. We have, therefore, a considerable amount of payable ore, but of a lower grade, stocked at the mine, which will be crushed when we have arranged for the erection of our own milling plant." You will remember, gentlemen, that we are an Options Company, and in that capacity, having our Monarch Mine enterprise fairly started on its career, we have purchased, upon advantageous terms, the leases of another group of gold mining properties in the same neighbourhood, which are known as the Big Gun group. We hope very shortly to issue to you a prospectus dealing with this property, of which we may say we have received most favourable information, the latest being conveyed in the cablegram received this morning in which it is stated that a mill trial has been made upon ore broken from the lode discovered on this property, 14 tons of the ore having yielded 45 ounces of gold, or over 3 ounces to the ton. It is our intention to form a company to purchase and work this property, such company to be upon a basis as to capitalisation similar to this company. Shareholders will be pleased to know that the whole of the work carried on by our company since its formation has been more than covered by the proceeds of the gold obtained. With these few remarks I will resume my seat, and if there is any question shareholders would like to put, the directors will only be too pleased to answer it.

Colonel THURBURN: How have you disposed of the people who claim the mine?

The CHAIRMAN: I can only say they have been happily disposed of. Mr. Davey has sent us a most satisfactory telegram on that subject.

A SHAREHOLDER: When are you likely to make another call?

The CHAIRMAN: I think what I have already said as regards our returns, and also my last remarks, would tend to answer that question, and show that it will not be necessary to make a call for some little time. Of course, we have to look forward to the erection of machinery of our own, and should we find it advisable to erect that machinery, doubtless some more of the capital, which has been subscribed for that purpose, will be required.

Mr. EMSLIE: Will you tell us whether you have yet issued the Big Gun Mine as a company, and when the shares will be offered to the public?

The CHAIRMAN: I cannot answer that question at all definitely. Undoubtedly, however, it will be to our advantage to issue that prospectus at as early a date as possible. Of course, we are just coming into the holiday time now, but I anticipate that towards the end of January we may be able to do it. I cannot, however, give you a definite date. Our secretary reminds me that you will like to know something about the position of our mine. The mine is situated in Victoria, in what are known as the "Alps" of that country. We are most favourably situated as regards water power and as regards timber. In fact, we have many natural advantages which are not possessed by other mines in Australia.

Mr. POPE: I would like to say a word or two on the matter. I know Australia fairly well, and this particular district is certainly one of the very cheapest, if not the cheapest, for gold mining in the whole of Australia. The cost of raising and crushing this ore will probably not be half—perhaps not a third—of what it would be in West Australia. This district is provided with some of the best mining labour in the world and cheap labour. It is infinitely superior to anything they are likely to have yet in Western Australia, while the wages paid are only half the amount, whereas the men are much better. In regard to the water and timber, these are to be had for the taking. In speaking of West Australia the timber there, is frequently nothing more than bits of stick, and for underground works and the erection of plants practically of no value. In this district, on the other hand, the timber is really first-class, and second to none that can be got anywhere, and suitable both for underground timbering and the erection of plant. Then, in regard to water, we expect from our mining engineer's report that we shall have water for milling purposes as well as to use over the plates and tables, and not salt mineral water—(hear, hear)—but fresh water, that is infinitely superior for gold amalgamation. Other points that we have in our favour are that we are on a ridge, and shall be able to tunnel and have a great lot of backs to stope out without sinking a shaft. We shall, therefore, save the expense of hoisting machinery, engine drivers, fuel, and so on, which is a very considerable item. We have in this property a large area of big, strong, lode, well defined, and the returns prove that some of it is ore of a very high grade. From the reports we have had from the other side, moreover, we know that the whole lode carries more or less gold, so that we have in this property a very big mine. Of course, we know that mining engineers are looked upon as champions of the "high falutin" style of speech, and, therefore, your directors will not predict or promise anything for the future, except that they will do their best to manage the mine well. (Hear, hear.) But I may point out to you, without predicting or promising anything, that the advantages I pointed out, in the possession of a big lode, facilities for mining second to none, and certainly very high grade ore, make it quite possible that we have here a very promising venture. Perhaps, in the next year or two, we may be able to develop this into one of the big mines of the world. I hope we shall. (Applause.)

Mr. JEPPS: I think very few of us have ever been present at so fortunate a statutory meeting as this. Everything points to a very prosperous career for our mine, and I am sure that to-day's proceedings are a very happy augury for the future. We shall all go away in a good temper, and resolve not to part with a single share. I am sure, gentlemen, that I express the feeling of the meeting in thanking the Chairman for presiding to day, and for calling us together on such a happy and lucky occasion. (Hear, hear.)

Mr. ROSS ROBINSON: I should like to second that proposition, and add my meed of praise as to what has fallen from the Chairman and Mr. Pope to-day. I know it is generally said that a good mine makes good managers and good directors. I think it often does, but in this case I believe we have a good board of directors, no matter what the mine may be, and a good mine no matter what the directors may be. (Laughter.) So that between the two we really ought to get on very well. I heartily second the vote of thanks to the Chairman and directors. I think they have put before us a very lucid and highly gratifying statement.

The vote having been unanimously carried,

The CHAIRMAN, in returning thanks, said: I am sure the directors will continue to do their very best for the company, in which they hold so large an interest.

The proceedings then terminated.

EXPLORING LAND AND MINERALS COMPANY, LIMITED.

The ordinary general meeting of the shareholders in the Exploring Land and Minerals Company (Limited) was held on Tuesday, at the Cannon-street Hotel, Mr. J. O. MAUND (Chairman of the company) presiding.

The SECRETARY *pro tem* (M. G. G. Walker) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—I have to formally present to you the report of the directors and accounts for the year ending June 30 for your approval and confirmation. As the accounts of a company are, to a great extent, an indication of its prosperity or the reverse, it has always been my habit, while presiding at this company's meetings and those of the parent company, the Exploring Company, to go pretty fully into them, although I am quite aware that most of you present are quite capable—in fact, more capable than I am myself—of analysing the accounts of the company. But as we have a body of 2000 shareholders, many of whom cannot attend this meeting, I think it is always wiser that the Chairman should explain fully the accounts which to many of them are a sealed book. If you will turn to the balance-sheet, the first entry on the debtor side, you will see is the amount of £1669, which is principally made up of sums due to the directors and legal expenses. The item of £2219 is the balance which was not then paid for the acquisition of the stands at Bulawayo. In regard to the reserve against the cost of mineral assets purchased from the Exploring Company, you will remember that when this company was formed we purchased from the parent company all our land and mineral assets for 60,000 shares. This sum, with the consent and approval of our manager and mining engineer in South Africa, we divided, so that 29,000 shares was for the land and 31,000 for the mineral claims. You will also remember that these mining claims included a half interest in 30 claims on the Ines reef. This interest we sold to the United Rhodesia Gold Fields (Limited) for 30,000 of their shares; and although we believe that the assets of that company are valuable, and that it has a bright prospect in the future

yet we thought that perhaps British sovereigns were quite as good as their shares, and we realised this asset for the satisfactory sum of £32,594. (Applause.) Now, it is almost impossible to gauge the value of mining claims in Rhodesia at the present moment, and as we have taken these mining claims in the aggregate for the sum of £31,000, we thought it prudent to place this £32,000 which we received for our share in the claims on the Inez reef to reserve. This, as we have stated in our report, places you in this position, that the whole of the balance of the mining claims that remain have cost you nothing, after leaving a very fair balance in hand for present and future development. (Applause.) I must remind you that we still possess several hundred claims, and amongst them 20 claims on the direct extension of the Inez reef. Therefore, in the future on the sale of any of these mining claims we shall be able to distribute the purchase price, less the amount that has been expended on their development, as profit. Now, going to the capital account you will see that 250,000 shares have been issued; in fact, the entire capital of the company has been issued; 60,000 of these shares, as I have explained before, were issued as against the land and mineral assets purchased from the Exploring Company. Then 20,000 were issued as fully paid against a first mortgage with the Exploring Company for the farms in the Transvaal, and also for a certain number of shares in the Transvaal Minerals (Limited), which we entered at under cost in our last balance-sheet. This item we have been able to liquidate during the year for the respectable sum of £25,000. Turning over to the credit side of the accounts, you will see that with the cash in hand in London and South Africa, loans at short notice and debtors, most of which has been since received, and which refers to a point I have already explained, and the investments in stocks and shares, we have the splendid total of about £211,000. The purchase of the land and mineral assets I have already explained, but to this £60,000 must be added the amount expended up till June 30, 1895, £8787, and the expenditure during the year under review £9316. Passing on to the profit and loss account, the first entry is general charges, which amounted to £3846, and is principally for cablegrams, bank charges, directors' fees, office expenses, &c., while it also includes the directors' share of the profits divided, which is 5 per cent. There is a small item of £723, which is money expended in South Africa on claims we have thought it advisable to abandon. There is a further sum of £3165 for sundry expenditure in South Africa. We have put to reserve the sum of £6070 for depreciation of securities held by the company at the date of the accounts, and we carry forward to the balance-sheet £30,901. Of course, I need not point out to you that had we have taken our stock at cost, which is the usual practice in City companies, we should have been able to add that sum to the balance carried forward, and further, if we had included in this balance the sum that we received for the sale of the claims on the Inez reef, less the amount spent on its development and purchase, we should have carried forward a balance of £60,000. (Hear, hear.) I think, however, you will approve of the course pursued by the directors in treating the accounts in this conservative spirit, and I am quite sure that you will agree with me that the financial position of this company is a very satisfactory one. (Applause.) The credit side of the profit and loss account is so clear that I think it speaks for itself. You will see an amount of about £7200 was made by dividends and interest on securities, while we made £22,500 on the realisation of securities, which we bought at a considerably lower price than what we sold at. The year that has passed has probably been one of the most critical in the chequered annals of South Africa. Human passions were aroused, and the political difficulties caused by the Jameson raid, were so serious that I suppose no man could have prophesied the eventual outcome of them, and difficulties did not come singly. While the difficulties in the Transvaal were still at their height the Matabele rebellion threatened the very existence of Rhodesia. And, added to this, we have had to contend with a period of unexampled drought throughout the country, and the rinderpest, which has probably destroyed 80 per cent. of the cattle throughout the sphere of influence of the Chartered Company. However, the gloom which had settled over us at the beginning of the year is rapidly clearing away, and railway communication from the southwards to Buluwayo and from Beira to Salisbury is being speedily pushed forward. Time has had a considerable effect in modifying the passions that were aroused, and good sense, and a feeling of mutual understanding and consideration in the Transvaal has settled, to a large extent, the political difficulties; therefore, the year which is now rapidly approaching, shows a much brighter prospect for the future. In regard to our land, the ground remains very much in the same position as when I last had the honour of addressing you. You are aware that it is approximately about 1000 miles in extent, or 640,000 acres. This again has been taken at a cost of less than 1s. an acre. I think it works out at about 10½d., and with the rapid approach of the railway, I think there cannot be a shadow of doubt but what the value of this land will quickly appreciate. During the past year we bought 16 stands in the township of Buluwayo, and these, too, no doubt will also appreciate in value with the completion of the railway to that town. With regard to the mining claims and the coal area, you will understand that it has been impossible to do any work under the condition of affairs in Rhodesia, being such that it entirely precluded miners and others going into the country. Our investment in the Simmer and Jack Deep, which we hold in conjunction with the Gold Fields Deep and the Gold Fields of Matabeleland, promise well, and it is satisfactory to report that shafts in the adjoining property—the Jupiter—were commenced in July last. This property lies between Jupiter and the Rand-Victoria. The Jupiter Mining Corporation was floated by the Gold Fields Deep during this year with a capital of £600,000. They have 510 mining claims, while the Simmer and Jack has 210, so that will give you some indication of its prospective value. During the year we floated the Wiltshire block of claims, and formed the Wiltshire Development Company (Limited), with a capital of £100,000, of which £40,000 is the guaranteed working capital. If the developments of these claims, which are in close proximity to Salisbury, warrants the expenditure of this amount, we shall have four-fifths of the stock of the company, or about 80,000 shares. (Applause.) We have also during the year taken part, in conjunction with the Gold Fields of Matabeleland and two most eminent trading firms in South Africa, in the consolidation of several important properties in the Barberton district. The title of the Barberton Consolidated Gold Fields Company has been formed, with a capital of £500,000 and a working capital of £100,000, which has been guaranteed by the different groups who have undertaken the matter. The property is being rapidly developed under our manager and mining engineer, Mr. Shanks, and as we have indicated in our report, we expect that this investment will be a good one for this company. (Hear, hear.) During the past 12 months a great wave of depression has swept over the markets, but I must remind you that the present market value of the shares, in many instances, is no indication of the real value of the stock they claim to represent. I know of several corporations, the market value of whose shares does not actually represent the working capital in the treasuries of the companies, leaving entirely aside the many valuable assets they hold. This receding wave will occur again—it will re-flow, as it invariably does. Our report has gone so fully into the work that has been done by the company that it is hardly necessary for me to detain you any longer. The Matabele revolt, which has cost us many valuable lives, and the rinderpest, which for some time to come must impoverish the native races in South Africa, has at least had one good effect. It has forced upon the Chartered Company the necessity of pushing on railway communication with Rhodesia. They have at last realised that under modern conditions no country can be developed without railway communication. The markets of the world are in such a state that, however rich a country may be with mineral resources, or for agricultural purposes, it cannot be prosperous unless communication is established with the coast either by railway or water. So soon as that railway communication is established so soon will the very considerable assets in Matabeleland and Mashonaland be enormously appreciated. There is no doubt about the mineral wealth of Rhodesia, and the directors look forward to the future of this undertaking, considering our strong financial position, not only without misgiving but with the most absolute confidence. I will now propose:—"That the accounts for the year ended June 30, 1896, and the report of the directors, be and the same are hereby adopted."

Mr GEORGE CAWSTON seconded the resolution, and it was carried.

The auditors, Messrs. Cooper Brothers and Co., were re-elected, and the meeting concluded with a vote of thanks to the Chairman and directors.

BARIMA DEVELOPMENT SYNDICATE.

The adjourned general meeting of this company was held at the offices of the company, 22 and 23, Robbaton, Demerara.

Mr. B. S. BAYLEY, who presided, said he would say a word regarding the strictures indulged in by Mr. de Jonge on that occasion, as they were not altogether deserved. Mr. de Jonge stated, *inter alia*, that nothing had been written off the property account of the syndicate. He held in his hand the accounts up to June 30, and therein appeared as balance to the credit of the Barima Development property $19,240. At June 30, 1895, the amount was $28,025, showing a difference of $8785. That difference consisted of $12,000, cash received from the Sir Walter Raleigh Company less 5 per cent. dividend ($2615) paid to shareholders, and 5 per cent. commission on the sale ($500), paid to the directors as prescribed by the Articles of Association. These entries had been duly made and passed through the books and accounts of the syndicate. Mr. de Jonge was also reported to have remarked—"It was said in the Articles of Association the remuneration of the directors should be £500 a year to be paid out of the profits, but the question was what were the profits." He (the Chairman) might say that the directors never acted on the basis that there were any profits. They had never taken a cent of that sum, although it seemed to have been the opinion of some at the last meeting that they had perhaps "collared" a large amount of that £500. But while that was the case, the question might arise, what were profits? If the syndicate had 63 claims, costing, roughly speaking, $30,000, and if they sold 14 for $175,000, that certainly did look as if there were profits somewhere. The directors, however, had not looked upon the matter in that light, and most of them along with himself had given their services to the syndicate for nearly 3½ years for the brilliant remuneration of $60, odd! So he did not think any charge would lie against the directors on that score. With reference to what Mr. de Jonge said about the scrip, the shares, strictly speaking, were not in existence then, and no entries were made for them until they were received two or three mails ago. They had reason to believe that they had a very valuable property. He saw by the report of the meeting of the Sir Walter Raleigh Company the other day that it was supposed the reefs on the Barima Mine ran through the Sir Walter Raleigh property, and if that were the case they must pass through the majority of the claims of the syndicate which were situated between the Barima Mine and the Sir Walter Raleigh. The claims were under option, and he had no reason to believe they would not be taken up, but if they were not, Mr. de Jonge had plenty of friends who might come to the front and take them up. If the meeting agreed to take the accounts which had been exhibited at the office for the last two or three days as read, he would move their adoption.

Mr. DE JONGE moved that the statement of accounts be taken as read, although it had only just been placed in his hands. He did not know it had been exhibited.

Mr. DRAGTEN seconded.

The accounts having been taken as read, the CHAIRMAN moved their adoption.

Mr. DE JONGE, in seconding, said he wished to refer to what the Chairman had said about him. It was natural for him (Mr. de Jonge) to say nothing was written off the value of the property, owing to the way in which the accounts appeared. He defied any shareholder of the company to carry in his head the balance-sheet of a year ago. In looking at the statement he received, he saw "value of property so much," but the proper way to put the item would be "value of property so much, written off so much." With reference to the question of profits, he did not say the directors had drawn any remuneration from them. What he said was they did not know whether any remuneration had been drawn by the board of management out of the profits, and they did not know what were the profits. Regarding the statement that the directors had only received $60, he pointed out they had got 5 per cent. on the shares issued as well. Continuing, he said that out of the $12,000 paid in cash for the property sold the shareholders had only received $2500. Of course the money had been spent previously on exploitation and things of that sort, but at the same time he hoped they would get more at the next money payment.

The motion was carried.

Mr. DE JONGE asked what arrangements there were for having the syndicate represented on the Sir Walter Raleigh board. They had, probably, an agent in England, and it would be reasonable that an arrangement should be made to have the syndicate represented.

The CHAIRMAN said he agreed with Mr. de Jonge. The syndicate held more than 33½ per cent. of the total shares of the company, and while nothing so far had been done in the direction of Mr. de Jonge's recommendation he thought the committee should take it into consideration.

Messrs. L. Peaile and James Winter, retiring directors, were then re-elected on the motion of Dr. ANDERSON, seconded by Mr. ROACH.

The retiring auditor—Mr. J. R. McLeod—was re-elected.

The CHAIRMAN intimated that the report and accounts of the Sir Walter Raleigh Company had arrived, and were ready for distribution among members.

Mr. DE JONGE enquired if any specified time had been arranged for the purchase in England of the other claims, and if any option money had been given for keeping them out of the market.

The CHAIRMAN said there was a specified time originally, but, on account of the Venezuela boundary complications, an extension of time was asked for. There was no knowing, then, whether these claims were in "No Man's Land," and what would be the upshot between England and Venezuela. But now they saw things were coming to a focus, and a settlement was imminent. He knew as a matter of fact an engineer was preparing to come out early next year to resume work.

The meeting shortly after terminated.

BRITISH DOMINIONS EXPLORATION (LIMITED).

The statutory meeting of the British Dominions Exploration (Limited) was held at the company's offices, 18, St. Swithin's-lane, E.C., Lord Bateman (the Chairman) presiding. According to an official report, the Chairman referred to the fact that this was a formal meeting, called in pursuance of the Companies Act, and that there was no resolution to be submitted. The statements in the prospectus had been fully borne out, and the company had started free from any liability whatever. In reply to a shareholder, the Chairman stated that 26,680 shares in the company had been applied for and allotted and fully paid up, and that the whole of the company's capital was intact. Business of a very important character had been before the board, which it was fully anticipated would produce large profits to the company. While negotiations were proceeding it was not desirable to enter more fully into details; but he anticipated that the negotiations would be shortly concluded, and the shareholders would be made acquainted with the result in the ensuing year.—After the usual vote of thanks to the Chairman the meeting terminated.

VAN RYN GOLD MINES ESTATE, LIMITED.

THE second ordinary general meeting of the Van Ryn Gold Mines Estate (Limited) was held on Tuesday, at Winchester House, Old Broad-street, E.C., Mr. F. A. GILLAM (Chairman of the company) presiding.

The SECRETARY (Mr. Stuart James Hogg) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—Before asking you formally to adopt the report and balance-sheet, I will venture on a short history of the working of your company during the year to which the report refers. When we met you here about this time last year it was my pleasurable duty to be able to announce a satisfactory result of the first year's working of the company. I also told you we expected increased profits in the future, but it is always the unexpected that happens, and in no country more so than in South Africa. For the year under review this hope of increased returns has not been realised to the extent we expected, but at least we have achieved the result of paying a 20 per cent. dividend, and the accounts before you show that we could pay a further 5 per cent., which, considering the troublous times the company has passed through in South Africa, cannot be considered unsatisfactory. A few days after we last met you—December 16, 1895—the Jameson raid took place in the Transvaal, the effects of which greatly hampered the business of the company. Among the first consequences, and, for us, the most serious of the raid, was an unprecedented block on the railways of South Africa, which retarded the delivery of all machinery and building material. At the same time the prices of transport, the value of all commodities, and cost of labour advanced considerably. These causes altered to a great extent the position of this company as reported to you this time last year. We were then sanguine that the new mill would start early in the year, but business in Johannesburg coming to a sudden standstill, the delays that resulted soon forced us to realise that our expectations as to the mill could not be fulfilled. Moreover, the mill engine, which was ordered in May, 1895, and should have been delivered in February, 1896, was not received at the mine until July, 1896. It is, however, with a great deal of pleasure I am able to announce to you to-day that all the difficulties have been overcome. Our entire new plant is erected, and the new mill was started October 19 last, and the first return from the new battery, according to cable advice I will read to you, is:—"80 stamps ran 34 days, crushed 12,489 tons, yielded 3525 ounces; cyanide works treated 7900 tons, yielded 982 ounces, estimated value £14,500." This result the directors consider to be very satisfactory, having regard to the absorption of gold by the plates that necessarily occurs in a new mill. We have been greatly disappointed during the past year in the excess of expenditure on new plant over the estimates. The original estimates were framed on the expectation that the mill would be running about February last. The delay in delivery of machinery and the advance in prices I have already referred to could not have been foreseen or avoided by the management. We found ourselves, therefore, at June last in a position of having to provide a further sum of £60,000 to complete payment for the new machinery. We succeeded, gentlemen, after some negotiation, in providing this sum, and are, therefore, in the strong position to-day of having all our new plant erected at the mine, and with funds in hand to pay for it. In addition to having to provide this money for our own requirements, we were met by a request from the Van Ryn West Company for financial support. The needs of that company at June 30 amounted to £120,000, which sum included all expenses for machinery and development until their mill starts crushing early next year. In view of our large holding in the Van Ryn West of 70,000 shares, we decided to assist that company. An agreement was entered into between the two companies and a powerful group of financiers, whereby the £60,000 we required, and the £120,000 required by the Van Ryn West, were provided. The terms of that agreement are briefly:—We agreed to guarantee the principal and interest of the advance to the Van Ryn West Company for which they pay us 2 per cent. per annum upon the amount advanced to them. In consideration of this large sum of £180,000 being provided to meet our wants and the requirements of the Van Ryn West, we have given an option over the unissued portion of our capital of 20,000 shares at £4 per share, and over 35,000 at £2, out of the 70,000 Van Ryn West shares we hold, the loans in each case being for two years at 6 per cent. I am sure you will agree with us that these terms are extremely favourable. The result to this company, if the options we have given be exercised—and I see no reason why they should not be exercised—will be that the first option over our own shares will yield us £80,000, of which £60,000 is profit, while the option over the Van Ryn West will yield a divisible profit, besides giving a considerable value to our remaining 35,000 shares, which are absolutely unpledged. In the case of the Van Ryn West we have also entered into a supplemental agreement, fully protecting us in respect of our guarantee in the event of default by them, and the agreement also provides that the 35,000 shares to which I have alluded will be replaced to us on favourable terms when they readjust their capital account. I think your may congratulate yourselves on the confidence felt in your undertakings by the powerful financial interests which provided the large sum of £180,000 for the needs of your company and the Van Ryn West on such reasonable terms. It will be of interest to you to learn that since the date of our report the balance of the option over the Van Ryn West shares, originally given by that company at its formation, has been further exercised, whereby that company is provided with a sum of about £30,000, with which they will pay off that much of their debt, and thus extinguish our guarantee to that extent. I turn now to the operations of your company during the past year. We have, as you know, been working with our old plant, which latterly became so defective that we were compelled to put lower grade ore through the mill. Thus it is that there has been a falling off in the yield of gold and in the profit per ton, as compared with last year. This condition of affairs is now passed, and I think that in future we shall be able to show you larger outputs and profits from our new 80 stamp mill, which, we are advised, is working to the utmost satisfaction. We have accumulated up to June 30 last ore reserves amounting to 180,478 tons, equal to 18 months' requirements. With regard to the reefs on this company's property, it is satisfactory to find that they are maintaining their value at the deeper levels, and it is also to us a matter of great congratulation that we have proved them by means of prospecting shafts to within 1500 feet of our eastern boundary. The profit for the year under review is £22,227, which with the profit at June 30, 1895, amounts to £43,552. I have already said that we paid in January last an interim dividend of 20 per cent., or 4s. per share, and we now carry forward to the New Year £11,552 6s. 9d., out of which we could declare a farther dividend, but, under the circumstances, we think it better to carry the amount forward to the New Year, for which we look forward to resuming dividend payments. I will now take up the balance-sheet before you and explain such items as may not be quite clear. The first item on the liability side is that of capital, which you will note has been increased during the past year by 16,886 shares. The balance of 3114 shares were taken firm, and although unissued at the date of the balance-sheet have since been taken up and paid for. Turning to the assets side, the first item is property account, which remains the same as last year. This account includes the cost of the Van Ryn West and the Van Ryn North properties disposed of. We do not propose to deal with this account until such time as we are in a position to either realise or satisfactorily value the shares we hold in these companies. Our interest in the Van Ryn North Company remains the same as last year, but owing to the delay in the transfer of the property, that company has not as yet issued all of the 70,000 shares coming to us. We are advised, however, that all formalities in connection with the transfer have been completed, and we shall very shortly receive the shares. The Van Ryn North has a large property with great agricultural and mining possibilities. The company have about £59,000 in hand, and we look upon the shares we hold as a valuable asset. Gentlemen, I regard this com

pany as having overcome all its difficulties, and I think we may safely look forward to an era of prosperity, which we hope will result in regular dividends being distributed for some years. He concluded by moving the adoption of the report and accounts.

Mr. J. H. VAN RYN (director), who was received with cheers, said: Gentlemen—In seconding the adoption of the report, it would have been a greater pleasure to us all if the board had been in a position to declare another dividend. We cannot blame the mine, because, notwithstanding that we worked for the year with a defective light 50 stamp battery, which was frequently out of repair, and necessitated additional expense, besides being away about three miles from the mine, we still show a profit of over £22,000. If it had not been for this unfortunate invasion we had last year, our new 80 stamp mill, which is now at work, should have been ready months ago, and would have made a great difference in our balance-sheet, and no doubt we could to-day have declared a good dividend. By this delay in getting the new mill to work, they had to supply the old mill with low grade ore, because the mortar boxes were leaking badly in which the first gold, about one-third of the value of ore, is caught. The battery was kept going mostly for the sake of keeping the staff on, as it is a difficult matter to get them together again. That is the reason why we showed a loss in the last month's working, and it would also appear to those who do not study those details that the Van Ryn Mine was getting into poorer ore, which is not the case, because our lower levels are opening up better. Regarding dividends, I heard the remark made "you will not be able to pay dividends for some time, because you will be about £60,000 in debt," I, however, do not think so, because the new 80 stamps should do about 10,000 tons monthly, and, according to Dr. Magin's and Mr. Bauer's (the consulting engineer) statement, we should make 20s. a ton. Even 15s. a ton would show a good monthly profit. You will note that 15s. is a low estimate, because by actual working from July, 1895, to March, 1896, we made an average of 14s. 10d. per ton, and then we had to tram the ore for about 3 miles, and tailings were not treated directly. We also expect a profit on slimes, and when the plant is erected and the profits I have mentioned actually made, I think Van Ryn shares will soon be above the present quotation, and as your company has 20,000 shares in hand which are under option at £4 to the parties who advanced the loan, I think that with a better market those shares will soon be taken up, and leave your company free of debt and with an available balance of about £20,000, and the profits from the new mill can then be used to pay dividends. The board regrets that the consulting engineers so much under-estimated the erection of the new plant, which has been a great anxiety to us, and has led to much unpleasant correspondence, because, according to the first estimates your board had ample funds to meet all requirements. We must, however, make allowance for the serious drawbacks we have had in the Transvaal, as explained in the report, but the extra requirements came as a great surprise to us. We have, however, this satisfaction, that from all I can hear the new plant is one of the finest on the Rand, and I hope that we shall soon start paying regular dividends. The first two months our profits will not be so large, because the new plates and cyanide vats absorb a good deal of the gold which otherwise would count as profit. With those few remarks, gentlemen, I beg to second the adoption of the report and accounts.

The motion was then put to the meeting, and carried unanimously.

Resolutions increasing the number of the directors from five to six, and appointing Mr. Henry Pasteur a director, were unanimously passed.

Mr. J. H. Van Ryn was unanimously re-elected to the board, and the auditors—Messrs. Deloitte, Dever, Griffiths, and Co.—having been reappointed, a cordial vote of thanks to the Chairman and directors closed the proceedings.

VAN RYN NORTH.

The first annual ordinary general meeting of the shareholders of the Van Ryn North Exploration and Mining Company (Limited) was held on Tuesday, at Winchester House, E.C., Mr. J. H. VAN RYN presiding.

The SECRETARY (Mr. Stuart James Hogg) having read the notice convening the meeting,

The CHAIRMAN said: Gentlemen—Your directors have much pleasure in meeting you here to-day to present to you their annual report and accounts for the period from May 28, 1895, to June 30, 1896. The board regret the absence of your Chairman, Mr. Boyle, who is at Johannesburg, and while there is looking after your company's interest, and when he comes home we shall call you together again to receive his report. At the request of my co-directors I have consented to take his place at this meeting because I am acquainted with your property. You will be aware, gentlemen, that when this company was formed, it took over the northern and eastern part of the farm Vlakfontein and 3523 claims were pegged out, and licences thereon were taken out by this company. There was considerable delay at first in securing these claims owing to the changes which have taken place in the Gold Law of the Transvaal Republic, but the Government issued at length licences to us, and from that date, which was in February last, we were able to commence work. It is only just lately, however, that the freehold of the property has been registered in our name. Soon after the excitement which followed the events that occurred at the end of 1895 had subsided, we commenced to prospect by means of boreholes, and the first of these was put down on Bester's portion of Valkfontein, which we acquired after the formation of this company. These were put down with the idea of finding coal, indications of which existed on our property, but so far none of the boreholes have succeeded in finding it. We then put down some boreholders on the eastern part of your property to ascertain if the Van Ryn reef runs through it, but here again no result was obtained at the points where boreholes were put down. The reef on your company's property is situated south-west of the homestead, and some boreholes have been put down in its neighbourhood to ascertain if possible if it is of a payable nature. An incline shaft has also been sunk, which has, by the latest advice, reached a depth of 77 feet, but the results do not as yet show a payable proposition, the pannings only running from 1 to 7 dwts., although from 50 to 54 feet the maximum was 5 dwts. This delay in finding a payable reef the board regrets, but from my personal knowledge of the ground, I believe that the reef as worked in the Rietfontein Mine, which has given such good results, will eventually be met with in your property. We are now commencing to bore along the western boundary to see if some of those boreholes will strike the reef I have mentioned. We shall also continue to direct our attention to fully prospecting the reef we have, in order to thoroughly prove it. We have on your property two other sources from which we hope to derive revenue. One is the tree plantation, which was planted by the vendor company soon after it commenced operations some years ago. The curator informs us that some of the trees are sufficiently matured for mining purposes. A number of young trees were killed by the disastrous frost which took place in the winter of 1894. The curator informs us, however, that he has planted a large number of young trees, which he advises us are in a healthy state. We have about 500,000 trees, and he values those at £125,000. This in the opinion of the board is an outside figure, though we hope that with time it will represent more than this. There is also another source of revenue which may become available in the springing up of a township upon your property. There are a number of important mines in the neighbourhood, and their employés and the various traders who live close by would form a nucleus, and wherever there are a few people gathered together in a little village, it at once constitutes an attraction for other people to come there also and reside. We cannot make any definite promise in this matter, but we hope that it will become an accomplished fact. I now turn to the accounts and balance-sheet before you, which are so explicit that they need but little explanation from me. The principle expense we have been put to in the past year is for licences and prospecting. Should we discover a payable reef this expenditure will not be thrown away, and we are limiting it to those parts of the property where the indications are promising. The premium account stands at the substantial figure of £27,000, and we may utilise this account in the future to write off the expenses for prospecting, which have not developed anything of value, but for the moment we leave it intact. We have not yet allotted the vendors' shares, but these will be issued very shortly, as we are now advised the transfer of the property is practically complete. Our cash in hand, including our investments and sundry debtors, stood at June 30 last at over £67,000, and since that date we have spent £7000, so that to-day we still have about £60,000 in hand. There was outstanding on capital account at June 30 the sum of £975 15s., the greater part of which has since been paid. And now, gentlemen, in conclusion, I hope that when our Chairman returns from the property he will bring us a good report. I now beg to move the adoption of the report and accounts before you, and shall be happy to answer any questions you may desire to put.

Mr. ERNEST SANDEMAN seconded the motion.

Mr. PULLEY: Do you not think it would be advisable to sell the trees at the price you mentioned?

The CHAIRMAN said he did not think so, as he considered that in time they would be worth considerably more than their curator estimated them at. The trees were fit for all mining purposes, and he thought in time their tree plantation would be a good source of income to the company.

Mr. PULLEY: I think it would be a very good thing if you could sell those trees and liquidate the company. You will be able to return 30s. to the shareholders. The shares are now standing in the market at 5s.

The CHAIRMAN, in reply, said he would be very sorry to see the shareholders throw away their shares at present prices, as he was confident that the company possessed great possibilities. He himself held 10,000 shares, and he also held an option on 5700 more. He had not sold a single share of those he held on option, and this showed his faith in the great possibilities of the company.

Mr. PULLEY asked if the directors would send the shareholders information of what was going on from time to time, and added that up to the present they had received no information as to what was being done, or what was going on from one meeting to another.

The CHAIRMAN, in reply, stated that work had really only just been started, but the board would be very pleased to send the shareholders any information they received.

A SHAREHOLDER asked what sort of wood it was.

The CHAIRMAN, in reply, said that the timber was suitable for all mining purposes. In fact, it was grown for that purpose. They were already selling some of the timber. He believed in time that the plantation in itself would yield sufficient to pay a dividend, but he was also in hopes of their striking a good reef. Altogether, he did not think that they should take such a despondent view of the position at present.

The motion was then put to the meeting and carried unanimously.

A vote of thanks to the Chairman closed the proceedings.

THE VAN RYN WEST MINING COMPANY.

The first annual ordinary meeting of the Van Ryn West Mining Company (Limited) was held on Tuesday, at Winchester House, Old Broad-street, E.C., Mr. ERNEST SANDEMAN (Chairman of the company) presiding.

The SECRETARY (Mr. Stuart James Hogg) having read the notice convening the meeting,

The CHAIRMAN said: Gentlemen—My colleagues and myself have the pleasure of submitting to you to-day the first balance-sheet and profit and loss account, together with the report upon the operations conducted on your property since the formation of the company. At that time sanguine forecasts were made of the company's future, and favourable returns were anticipated as soon as crushing commenced. After 18 months of development your directors are not disposed to feel any less confidence in the future success of your company than they did at first, nor do they see any reason, from the reports which have come to hand since development commenced, to anticipate anything but a successful future for the undertaking. Since the company was formed your directors have used their utmost endeavours to expedite the development of your property, in order that crushing might commence at the earliest date possible, and in these endeavours they have been seconded by the local committee, who have been guided throughout in the laying out of the mine and its development by the experience and knowledge of Dr. Magin and our consulting engineer, Mr. Bauer, whose report lies before you. The thanks of the shareholders are, I think, due to the staff at Johannesburg and at the mine for the faithful way in which they have been working for the company's interests. There have been many and serious difficulties to contend with, and they are working incessantly in order that the new machinery may be erected in the shortest possible time. The progress of the operations has not been as satisfactory as could have been wished, but we submit that the reason for this was due to causes beyond our control, and that of the local committee, and which it was not possible to foresee. During the disturbances that occurred on the Rand at the end of 1895, business came to a standstill, the difficulties and delays in the way of getting orders executed, material delivered, the flight of employés from Johannesburg and the rise in the wages of those who remained, have been some of the obstacles which your directors have had to meet and overcome. I think, therefore, that you will agree with us that great allowance must be made for the difficulties I have alluded to in estimating the progress that has been made during the period for which we have been at work and in considering the position we stand in to-day. That position is briefly as follows:—Your property, which consists of about 179 claims, of which 76 are known to be reef bearing, has been transferred after much unavoidable delay into the name of the company, and certified copies of title deeds are now in our possession in London. The machinery has all been delivered at the mine, and is expected to be completed and running about the beginning of February. It is of the latest type, and has been designed and erected so as to admit of the utmost economy in working. The plant includes an 80 stamp battery, a cyanide plant of 8000 tons monthly capacity, and a powerful air-compressor for driving 20 drills. We had, at June 30, 59,613 tons of ore in sight; since that date we have accumulated about 30,000 tons more, while when the new mill starts it is expected that we shall have altogether 110,000 tons of ore in sight, or sufficient after sorting for about nine months' supply for the new mill. The rock drill now in operation will keep us well ahead of the requirements for the mill. With this plant running it is expected that 10,000 tons will be crushed each month, and 8000 tons treated by the cyanide works; the working costs, we are told, are not expected to exceed 23s. per ton. On this basis it is hoped that the profits will prove 15s. to 20s. per ton, and we hope to keep them up to this level. Turning now to the balance-sheet before you, the only items, I think, which require explanation from me are the amounts written off to the premium account. We have followed in dealing with these figures the principle of writing off what we consider to be assets of doubtful value, and thus have written off mine development and tools and appliances. We also dealt in a similar way with the balance standing to debit of profit and loss account, and still have the substantial amount of £19,661 15s. 2d. as balance of premium account to deal with in the future. Since the date at which the balance-sheet was made up, the balance of the option granted at the formation of the company has been exercised, yielding a further £29,290 12s. 6d., which we shall devote to reducing our debt of £120,000. As to the financial position of your company, early this year we were advised by your local committee that in consequence of the dislocation of business caused by the Jameson raid, the rising wages and costs of material had much affected the original estimate for the cost of the mine equipment and development. We then had a careful estimate drawn up to show what the additional ultimate financial requirements of the company would be until the mine yielded sufficient to pay its own way, and this estimate showed a total of not less than £120,000. This, gentlemen, is a large sum, and your directors were in a state of great perplexity as to how it should be raised. We had at one time under consideration the advisability of coming to you with a scheme for the increase of our capital, but in view of the depressed condition of the markets and the dearness of money, we abandoned the idea, and eventually, after careful consideration and long and serious negotiation, we succeeded in obtaining the amount needed, subject to certain conditions. We decided to ask the Van Ryn Gold Mines Estate (Limited) for their assistance to comply with these conditions, and they kindly assented thereto. With their help, and that of a powerful financial group, an agreement was entered into for the loan of £120,000 upon debentures which the Van Ryn Gold Mines Estate, the vendor company, agreed to guarantee. These debentures bear interest at the rate of 6 per cent. per annum, and in consideration to the Van Ryn Gold Mines (Limited) we agreed to pay them 2 per cent. per annum upon the amount guaranteed by them. I think you will agree with us, the terms we have arranged is a matter of congratulation to all of us as shareholders, that financiers have sufficient confidence in our property and management to come forward and provide us with such a large sum of money. The thanks of shareholders are also due to the Van Ryn Gold Mines Estate for their guarantee, without which such favourable terms could not have been arranged. At some future date, no doubt, the amount we have expended upon capital account will have to be adjusted, but when that day comes, we shall, I think, with the results that will then be shown by the mine, be able to do so on far better terms than could have been obtained this year, and so keep the capital down to a figure which will enable us to place the shares at a much higher price than they stand at to-day. This, gentlemen, concludes the remarks I desired to make, and I trust that I have been able to make clear to you the position of your company to-day. As I have already said, we hope to start crushing in February next, and we believe that the result will fully justify the favourable predictions which have been made from time to time as to the success of the future of our company. I shall be glad to answer any questions which you may desire to put to me. In conclusion, he moved a resolution for the adoption of the report and accounts.

Mr. JOHN SHEAR seconded the motion, which was unanimously adopted.

Mr. E. SANDEMAN proposed, and Mr. L. B. BURNS seconded, a resolution for the re-election of Mr. J. H. Van Ryn as a director.

The motion was unanimously adopted.

The auditors, Messrs. Cooper Brothers, having been reappointed, a cordial vote of thanks to the Chairman and directors closed the proceedings.

KURNALPI GOLD MINING COMPANY, LIMITED.

The ordinary general meeting of the shareholders in the Kurnalpi Gold Mining Company (Limited) was held on Tuesday, at Winchester House, E.C., Mr. M. F. PURCELL presiding.

The SECRETARY (Mr. W. H. Brown) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—You have heard the notice convening the meeting read by the secretary. I presume you have all read the report, the adoption of which you are here to-day to consider. I regret extremely that it is not to declare a dividend that you are here, but at the same time, I think the report will show you that the prospects of the company are extremely good, and that the board has done everything in its power to advance the interests of the shareholders. During the period we have been working we have had a great deal of ore brought to grass, which, as our manager informs us, runs on an average 2 ounces to the ton. We had an attempt at crushing at a neighbouring battery, but the battery broke down, and practically the work was stopped at once, so that attempt failed. We have since got our own machinery upon the ground, and as we were about to start crushing, we got what was really the most valuable thing we could get—a large influx of water. This necessitated our getting a pump, and there we came to our real trouble—a trouble which has really formed a most extraordinary series of unfortunate coincidences. We have been delayed in every manner—by the breakdown of the transit, and by the bankruptcy of the firm of manufacturers. In connection with the troubles we have had out there I think I may just read this letter which I received yesterday from Messrs. Henning, Rounsevell, and Isbister, who are probably the best known firm of solicitors in the Coolgardie district. The letter is as follows: "Dear sir,—We acknowledge the receipt of yours of November 16, and can thoroughly understand the disappointment the directors must feel that the crushing has not already been commenced. We can assure you that it is causing us more annoyance than you can possibly imagine. Time and again our expectations in this respect have been buoyed up, but only to be shattered a day or so later. The agents who are endeavouring to get the pump are in a similar position, and for your information we enclose copy of a letter received by us from them stating the position. To our knowledge they have done everything that could possibly be done to hasten its arrival. Other companies are suffering like you from the gross mismanagement of the officials who have charge of the forwarding of the goods. Upon inquiry to-night from Messrs. Monger and Co. they say that they have nothing further to report than is contained in their copy letter which we enclose. Our feelings in the matter can be more easily imagined than described, especially as we have just received a wire from Captain Vialls that he is now at the mine ready to erect the pump, and we have been compelled to wire him that it has not yet arrived. We are fully alive to the fact that it is most important crushing should be commenced at once, and you can rely that we will do everything in our power towards this end.—Yours truly, Henning, Rounsevell, and Isbister." That, gentlemen, is the report of our agents, who are, as I say, the best known and most capable solicitors in Coolgardie. You see the impossibilities of getting this pump with less delay. However, since this letter was written, I have had a cable stating that the pump had left Kalgoorlie for Kurnalpi; and since then we have had another cable, stating that crushing will commence immediately. We expected the news of the actual commencement would have been before you at this meeting, but, unfortunately, it is not so. I have no doubt when it comes you will find the delay in waiting has not been to the deterioration of your property. That this is a good property, gentlemen, your board are satisfied. Personally, I have got independent mining engineers to report on it to me, and they have reported most favourably. They say that the quartz is an ironstone quartz, carrying gold freely throughout, and that it is a mine which, so long as we follow the lode and get the quartz, will always be a paying mine. Your directors have also secured for you a neighbouring block on the west, on to which, no doubt, our own reef dips. Independently of all this, we understand that this block has very considerable indications of a high-class ore as well. As soon as we have succeeded in crushing on the present block, and got it into full working order, we will commence to develop the other, and I have no doubt that within a reasonable time you will find that this property is as good a property as any in West Australia. One of your directors is, I am sorry to say, absent to-day, but his absence will be compensated for by the fact that he has gone to Australia, and that he has undertaken to go up and investigate and see for the shareholders exactly the position of affairs at the mine. Being a practical mining engineer himself, we can have no better superintendent and officer to direct the others when he gets over there. At the same time we have also secured for you through our agents a first-class superintendent over all the machinery, I think you will all find, gentlemen, good reason to anticipate that at our next meeting it will be proved to you that, if this mine has been hung up for some little time as regards dividends, the result was very well worth waiting for. (Applause.) In conclusion, I beg to move the adoption of the report.

Mr. CHESTER: I propose to depart from the usual custom, which is for a director to second his own report, and, as a shareholder with 1000 shares, to second the motion, and I do so with some

feelings of thankfulness to the directors for the frankness with which they have expressed themselves in the report, and for the straightforwardness with which the thing has been conducted. I do not know one director even by sight. I bought my first 100 shares through my bankers while I was in Constantinople, and, I can assure you that, generally speaking, my feelings as to mining company directors are such that I honestly think it would not have been a bad thing if half of them had been in Constaninople recently and been mistaken for Armenians. (Laughter.) Of course, I except from that our directors. I have been from time to time at the office, I have had every question answered by the secretary with a frankness which is not usual in mining companies, and especially I have come to-day to support the report and to add my word of praise for what your directors have done. It has been my fate for the last few days, in which, for some mysterious reason, nearly every mining company seems to come before the public, to attack directors. So far from attacking the directors now, I want to extend the cordial right hand of fellowship towards them, and I hope you will all do the same, because if you look at the report you will get one fact which is not a very common one at this sort of meeting. There is one fact which is common—the difficulties. There are always difficulties, and they are always starting up at the wrong time, as far as shareholders are concerned, but you seldom get this fact, that the ore is giving 2 ounces per ton, and that a large amount has been brought to grass.

The CHAIRMAN, in reply to questions, said: In answer to Mr. Chester's question as to the amount of coin we have got to go on with, I think you will see, looking at the balance-sheet, that we practically have £1300, besides £3473 worth of shares to issue for working capital. The total amount of working capital we originally started with was £10,000, of which £5000 has been expended, including the purchase of machinery and the cost of getting that machinery across from Southern Cross to Kurnalpi, which was more than the cost of the machinery. We had to pay 6d. a gallon for water for a team of horses at every stopping place. Your directors in last March, feeling that until this company was in a position to pay a dividend it would not be right to draw money from it, decided to draw no further fees, and they had not done so. With regard to the crushing, directly crushing begins there will be plenty of money to meet further expenditure. The manager is a gentleman who is extremely well known, named Mr. Samuel Catherall. As regards the strictures on the directors of having frittered the company's money away by purchasing the next block, we have secured that absolutely free of cost. (Applause.) There is no point that the directors can possibly grasp to aid them in carrying on this work at the lowest possible price that has not been done in the interests of the shareholders. I may add that the directors are themselves large shareholders, and it is to their interests that not a penny should be spent which is not absolutely necessary. (Applause.)

The resolution was carrried unanimously.

A vote of thanks to the Chairman and directors concluded the meeting.

MENZIES GOLD ESTATES, LIMITED.

The second ordinary general meeting of the shareholders of this company was held on Wednesday, at Winchester House, Old Broad-street, E.C.—Sir JAMES LINTON, the Chairman of the company, presided.

The SECRETARY (Mr. H. Slaney) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—You have all received copies of the report and balance-sheet, so, with your permission, we will take them as read. (Hear, hear.) In those reports your directors have endeavoured to give you as much information as possible with regard to the condition of your property, and, in addition to the directors' report, you have received a report also from your mine manager. It, therefore, leaves me, as your Chairman, very little to say, but what information I have I will give you. Since the report was issued we have received information from the mine manager, which is very important, and I think will be satisfactory to you as shareholders. I am going through one or two points in the report and will dwell upon them if there is anything in the paragraphs that I think would meet with your approval and would be of interest to you. In the first place, I should like you to bear in mind that this company was originally organised as a development company, and, as a consequence, with such a large acreage as we possess, the expenses of development were necessarily large. If you refer to the report you will find that our area was 233 acres, and when you remember that by the labour laws in Australia we are compelled to employ one man to every 3 acres, at an average weekly wage (say) of £3 to £4, you will easily sum up what the cost would be if the estate were left on our hands for a lengthy period. Fortunately, however, in the beginning of the year we were able to sell to a subsidiary company—namely, the Menzies United Mines—a large portion of our estate, consisting of five leases containing an area of 84 acres, and we have received as the price for that portion 130,000 shares of £1 each fully paid. Then, later on, in April of this year, we were successful in negotiating a sale of a further portion of our estates to the Menzies Gold Development Company. That consisted of seven leases, and contained about 95 acres, and we received 100,000 fully-paid shares of £1 each. Now, I will tell you—and I daresay many of you know it—that both these companies have ample working capital for carrying on their propositions to a successful issue. I may say with regard to the Menzies Gold Development, being your representative director on the board of that company, that they have been fortunate enough to strike a sufficient body of water to produce a large income, and in the last report the manager states that he hopes the revenue from that source will pay for the development of the property. (Applause.) The next matter is regarding the leases that remain to you. We now retain three leases—namely, the Aurelia, Cleone, and Etrenna. The area of the three leases is about 54 acres. I think you will be gratified to hear from the information received from the mine manager that he is quite satisfied with the prospects in view for the future of the remaining portion of our estates, and while on the subject I will read to you his last letter; it is dated November 14. He says:—"I beg to report as follows for week ending this date:—Aurelia, No. 2 shaft. The quartz streak in stope in back of No. 1 level is about 8 inches wide, and assays 2 ounces 10 dwts. 20 grains per ton. The lode is fairly easy for working. At the breast of No. 2 level north I have been crosscutting west to prove if there was any more lode in that direction, and the distance driven, 10 feet, has been in lode formation, with small stringers of quartz which dolley a little gold, but nothing of value. The main drive will be pushed forward again. The south drive on this level is now 20 feet from shaft, and the lode fills the breast of the level and is fairly easy for working. A sample taken for 2 feet wide assayed 2 ounces 5 dwts. It gives me great pleasure to state that the lode in different places being worked has a much better appearance than I have seen it for some time past. I shall start another stope from No. 2 level shortly, also the sinking of a winze in bottom of No. 1 level between No. 1 and No. 2 shafts to connect with No. 2 level north, which will ventilate the bottom of the mine and open up a block of ground for stoping. On Etrenna lease the progress in sinking main shaft for the week has been 6 feet, making the total depth 97 feet. The stratum which we are at present going through is a green stone or diorite, dipping fast to the west, and highly mineralised. The work on mill is being pushed on as fast as possible. The tables, &c., I hope to have in place this week. There is nothing else new to report for the present.—HARRY JAMES." So far, that is a satisfactory communication, and more especially with regard to what he states in reference to the Etrenna lease, and I think we shall find it a very valuable property. In relation to that I should like to read you a communication, dated November 9, which was sent to us privately, but which I think is no longer private:—"Respecting the original strike of Crusoe lease, which I wrote to you privately about last week, I have just learned that the reef looks splendid, and that three samples taken last week assayed 3 ounces, 9 ounces, and 7 ounces gold per ton. He assayed very fine stone just taken from the reef, which carried galena, iron pyrites, and coarse gold throughout. The lode dips at an angle of about 75 towards Etrenna, which, I presume, the directors will consider important, and will be encouraging to us to push on with the shaft at the Etrenna with all possible speed." To give you some impression of the various assays we have received during the year, I will read to you a communication we have received from the mine manager. I would like you to understand that the stone was not picked, but was taken on a fair average. On August 3 he speaks of the Aurelia lease, 3 ounces 4 dwts. 16 grains; September 3, 2 ounces 9 dwts. 9 grains; September 17, 3 ounces 19 dwts. 21 grains; October 15, 3 ounces 17 dwts. 16 grains; October 15, 4 ounces 15 dwts. 2 grains; October 29, 3 ounces 1 dwt. 17 grains; November 12, 2 ounces 10 dwts. 20 grains; November 12, shaft Aurelia No. 2 level, 2 ounces 5 dwts. I think that with the information I have been able to add to the report that you will congratulate yourselves, as directors, that in the remaining leases you have in your possession a very valuable property, with every prospect, with a little patience, of a successful issue to your venture. I have to inform you that the mill is very nearly completed, and I should say that it will be erected some time in January, but, of course, your directors cannot commit themselves to any date, because, as you know very well, accidents will happen in a country like Australia, as already minor accidents have kept it back for about 12 weeks. Hindrances which would be regarded as trifles here are highly important in a country like Australia. I would like to refer now to the staff, and especially to Mr. Henry James. We had great difficulty in the early part of our career to get a manager at all, but after considerable searching we secured the services of Mr. James, and from the way in which he has conducted the affairs of the company since then we are highly satisfied with him, and consider he is a first-rate mining engineer, and well adapted to look after our interests. We have also had great assistance from our consulting engineers, Messrs. Bewick, Moreing, and Co., and especially from Mr. Moreing, who on all occasions has placed his services at our disposal, and given us the best possible assistance towards the furtherance of the welfare of Menzies Gold Estates. I now beg to move that the report and balance-sheet be received and adopted. (Applause.)

Mr. LIONEL NETTRE seconded the motion.

Mr. MOREING said that, according to the calculations based on the dip of the vein, it was expected that the Crusoe reef, which had turned out exceedingly well, would be cut at a depth of 620 feet on the Etrenna lease. This was by no means a great depth. In this connection he might mention that they were now working mines at the Cape at a depth of 3000 feet, and although in Western Australia they had not, so far, had time to sink to such a distance, he saw no reason why they should not be equally successful in deep mining in that colony as in other countries. There was nothing in the veins to lead to the supposition that they were not permanent and valuable in depth. Between the boundary of their property and the main Crusoe vein another lode had been recently discovered by the Crusoe Company, which was cut at a depth of about 100 feet, and at about 130 feet from their own boundary. When first cut it was 10 feet thick, and assaying, for 5 feet, the high figure of 15 ounces to the ton. Probably it would not be much longer before they cut this lode. With regard to the Aurelia lease, he certainly did not think that they could consider the developments that had taken place there as disappointing. In fact, Mr. Florence O'Driscoll had stated that he believed this was the best lease of the whole. Although Menzies District was not so regarded at the present time by investors and speculators, there were those who declared that it would ultimately rival Hannan's field, and become one of the most promising districts in the whole country. With reference to the loan, he might say that he was instrumental in lending that money to the company, and when he told them that it was lent at 6 per cent. he did think they would consider it an extravagant way of raising money for Australian mining. (Applause.) It was impossible for them to say whether the £10,000 would be sufficient to sink the shaft on the Aurelia lease. The water there was very bad, but the other companies who were crushing found no difficulty in regard to water. The expenses were about £800 per month. They had 25,000 shares in reserve, and he did not think that they would have any difficulty in borrowing money on reasonable terms on those shares if it should be required. Considering that the accounts were only for a period of 11 months, and that Menzies was an enormous distance from the railway, he did not think that any time had been lost in putting the company into a satisfactory condition.

The motion for the adoption of the report and accounts was then put to the meeting and carried unanimously, and the auditors, Messrs. Monkhouse, Stoneham, and Co., having been reappointed, the proceedings terminated with a vote of thanks to the Chairman and directors.

RHODESIA CONCESSIONS (LIMITED).

The annual meeting of this company was held on Tuesday at Cannon-street Hotel.—Mr. A. Elwes, who presided, in moving the adoption of the report, said he had formed one of the expedition which, under the command of Dr. Moloney, left England to prospect and locate some 600 miles of land to which the company was entitled in the British South African territory, north of the Zambesi, and proceeded to give an interesting account of the adventures of the expedition, touching also on the railway prospects in South Africa. It was on the north banks of the Zambesi that they expected to find the gold deposits they were looking for, as it was from that quarter that gold had previously been sent to the Portuguese, and there must be abundance of the precious metal in that quarter. There was an arrangement for amalgamation with all the other companies, and this in due course would doubtless be carried out, and it would give them some 10,000 square miles of territory to deal with. In the meantime they were going on quietly. The directors had taken no fees, and every possible economy was being practised.—Dr. Lister called attention to a report that some of the old shareholders were "unloading." This tended somewhat to militate against the value of Rhodesian shares.—Major Cotton thought that the directors should not work for nothing, and moved that they should receive £500 for their services.—In reply to questions, the Chairman said as a matter of fact the original directors had increased their holdings instead of selling out.—The report was adopted.

CONSOLIDATED MURCHISON GOLD MINES, LIMITED.

The second ordinary general meeting of the shareholders of the Consolidated Murchison Gold Mines (Limited) was held on Wednesday, at Winchester House, Old Broad-street, E.C., Col. R. PAREY NISBET, C.I.E., in the chair.

The SECRETARY (Mr. H. Slaney) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—In the absence from ill-health of the esteemed Chairman of the company, Mr. T. J. Bewick, I have been called upon at short notice to take his place to-day, which I can only fill very inadequately, and will, therefore, ask your kind indulgence in the remarks I have to offer. The directors' report, which every shareholder has received, together with the statement of accounts, enters very fully into the business of the company since its incorporation 16 months ago. A careful study of the report must convince everyone that systematic and good progress has been made in the development of your property, and that the results and, still more, the future prospects are very encouraging. I feel bound to say that no mine in Western Australia has been developed in the time more quickly, or with better judgment than our own. The directors immediately on taking over the property concurred in the opinion given them by their responsible advisers, that much larger crushing power than we then possessed was necessary for the development of the mine. The avowed merit was not so much in the value and richness, as in the abundance of payable ore in the mine. With the 20 stamp mill which has been kept in full work 20,000 tons of ore have been crushed, yielding 10,500 ounces of gold. If the 30 extra heads of stamps had been delivered and erected by the date originally hoped for, the outturn of gold would have been considerably greater, and would have realised a sum far in excess of the small amount we have had to borrow, for doing which there would have been no necessity at all, but we should to-day have had an appreciable sum to our credit. While on this point, I should like to say that though extreme caution characterises the audit of our accounts, to any one who chooses to analysis them they will show much much better than the balance-sheet indicates. For instance, while the mine accounts are only made up to March 31, 1896, the whole of the expenses of our enterprise, both in Western Australia and in London, has been included to June 30, and consequently the mine has been charged with expenses for three months, while, *per contra*, no receipts for ore crushings are credited against this. There is no question that the developments of the mine have been all the more extensive from the fact that owing to the non-arrival of the extra machinery our mine manager was able to devote his attention, and the time of those under him, to pushing on these developments, which will certainly tell very considerably when the extra stamps are at work, which we are told to expect by the end of January next. The expenses of these extended developments are so much money put into the mine which might very well have been charged to the capital account, whereas in the balance-sheet it is shown under profit and loss. You will be glad to learn that the new machinery, which was supplied from Adelaide, has all been inspected before acceptance, and we may, I hope, feel fully confident that it will be quite equal to muster, and, when started, do the work thoroughly well. Our present manager at the mine, Mr. Knutsen, has proved himself a man of industry and resource, and your directors are well pleased with his work. A very full inspection of the mine was recently made by the Government Inspector, who expressed to the Government his satisfaction in all he saw, and reported the fact that the works had been well carried out. What few suggestions he made have been carefully attended to, and the alterations or additions he pointed out have been supplied or ordered from England and sent out to the mine. Our manager was specially capable of carrying on the work of the large and complete cyanide plant erected under the personal supervision of the patentee, Mr. Sulman, at the mine for the treatment of the tailings, which can be put through at the rate of about 100 tons per day. There are, as you are aware, some 20,000 to 30,000 tons of tailings ready for treatment, and the first experimental crushing of 2300 tons yielded 325 ounces of gold, which is a very appreciable percentage addition to the value of the crushed ore, and promises fairly to confirm the statement I have heard frequently made that the tailings of this mine should go a long way towards the whole cost of production, and if such is the case it would be very satisfactory to all of us, and increase the prospect of reaching, before long, the dividend-paying point. Having told you that your directors think so well of your present manager, I am sorry to be obliged to add that he is leaving us, as his appointment was only temporary, and he is under an engagement to return to his original employers, who are unable to spare him to us longer. Your directors, however, have found a thoroughly efficient manager to take his place. I have also pleasure in informing you that a new and very favourable agreement has been concluded by your board with the consulting engineers, which, while largely reducing expenditure under this head, provides for quarterly visits by one of their firm to the mine and full reports of each inspection. This arrangement should prove most valuable in placing us in full knowledge of all that is doing on the property, and help us to curtail mining, milling, and general expenses down to the lowest reasonable figure. The Chairman concluded by moving the adoption of the report and accounts.

Lord PERCY DOUGLAS seconded the motion.

Mr. UNDERWOOD asked why it was that the Strathmore Mine had been abandoned, seeing that it yielded a higher percentage of gold than the other mines.

Mr. LYALL urged the necessity of economy in the management of the company.

A SHAREHOLDER said that at the last meeting the Chairman had stated that there were 6000 or 8000 tons of tailings going 9 dwts. to the ton, but now the contents were put at a much lower figure. He also wished to know how much ore there was in sight, and whether there was a prospect of the mill being kept going continuously.

Mr. HUME thought the company were dealing with rather ancient history, since the accounts were only up to June 30, while the expenditure at the mine was only up to March 31. He suggested that the shareholders should accept the accounts only on the condition that the board undertook to call a meeting, at the latest on April 30, and then present the accounts both for the mine and those of the London office up to December 31. He also thought the fees taken by the directors too heavy, and considering that the mine was emphatically a low grade proposition, the greatest economy was necessary in the management.

Mr. ALGERNON MOREING, in answer to these and other questions, said that, as the consulting engineer and the largest shareholder, he wished to make a few remarks. As to the abandonment of the Strathmore Mine, the reason was that, although the mineral was fairly rich, the rock was hard and the vein small, while it gave indications of pinching out in depth, so that it was abandoned to save labour costs, and the extension in other directions had been taken, which had had the

effect of consolidating the company's property. The cost of treating the tailings was a very important point, and, so far as the present information went, the amount was 1 dwt., or 4s. per ton. It was originally believed that the tailings would average 9 dwts. per ton, but on treatment it was shown that they would probably not average more than from 5 dwts. to 6 dwts. This, however, was quite sufficient to leave a handsome profit. The Murchison district was still unconnected with the railway, which had up to the present greatly impeded the company's operations, the bromo-cyanogen having gone astray. The directors had carefully thought out the question, and had adopted a process which was, undoubtedly, at present, the best known. As to the offices in Paris and Berlin. These only cost £50 a year each, and, there being a large number of Continental shareholders, these offices facillitated business a great deal, while the cost was not great. It was, no doubt, true that the accounts were in arrears, but this was certainly not the fault of the directors, who had been constantly cabling and writing on the subject. Accounts from Western Australia were difficult to get, owing to the difficulty of getting people in Western Australia able to make them up. All this, however, was rapidly changing, owing to the construction of the railway, and the improvement in the conditions of life prevailing in the colony. In this respect there were many companies which were more behindhand than their own. The directors were doing all they could, and as soon as they got information they gave it to the shareholders. The full details of the cost of working and treatment could not be got, because the company was not yet fully in working order. In another month or two, however, the full machinery would be at work, and the directors would be in a position to supply the returns as to the cost of working, which all the shareholders ought to have.

The CHAIRMAN, in answer to the observations which had been made as to the directors' fees, said that the directors had not drawn a penny during the past half year, and they did not seem likely to get anything until the mine was in working order. The board were incurring great anxiety and trouble in managing the affairs of the company, and they were at present doing it for nothing.

Mr. HUME moved an amendment to the effect that the report and accounts should be adopted, subject to the calling of another meeting in June, to receive full accounts from London and West Australia.

Mr. UNDERWOOD seconded the amendment, which was put, and carried by a narrow majority.

The auditors, Messrs. Monkhouse, Stoneham, and Co., having been re-appointed, the proceedings terminated.

GOLD FIELDS OF MOZAMBIQUE, LIMITED.

The fourth ordinary general meeting of the shareholders in the Gold Fields of Mozambique (Limited) took place on Wednesday, at the Cannon-street Hotel, Mr. G. F. TAVENOR (Chairman of the company) presiding.

The SECRETARY (Mr. Josiah Richards) read the notice convening the meeting.

The CHAIRMAN said: Gentlemen—We have met to-day to give you a short *resumé* of our proceedings during the past year. Unfortunately, as you no doubt are aware, the disturbances in Mashonaland caused the stoppage of a great many practical works in that region, and we, being situated on the high road at Massi Kessi, participated to a great degree in the scarcity of labour and various other drawbacks which ensued upon those disturbances. Things, however, in that country through the instrumentality of that very able administrator, Mr. Cecil Rhodes, and his co-adjutors, seem to have got into a state of comparative rest, and, so far as the future is concerned, we hope and believe that there will be no disturbance which is likely to check the mining industry in that locality. This company, as you are aware, is a promoting company; the only mines we possess ourselves consist of the remainder of the grant from the Companhia de Mosambique, which consists of 34 claims. We originally possessed 100 claims, but out of that number we have brought out the Lion Company, the African Alluvial, and the Tiger Company. All three of these companies have been working as well as they possibly could during the past year. The directors of this company, considering it would be very wise to obtain an independent report on the properties of the different companies at Massi Kessi and in the neighbourhood, selected with that view a gentleman who has been for many years connected with the management of mines in the Transvaal, and deputed him to go and inspect them, and afterwards write out his report. In the ordinary course this report should have reached us several months ago, but the disturbed state of the country prevented the gentleman in question from proceeding to our properties until within the last two months, and consequently all we know up to the present is that which we have received by cable. So far as the Tiger Company is concerned, he says it should be pushed forward without delay, as it is a very good property. In regard to the Lion Company, he tells us to await his report, which has been mailed. By this we think he means that the direction of one of the tunnels which are being driven to pierce the reef should be altered. However, we shall wait for the report to see exactly what he does mean. In regard to the African Alluvial, the cable information was distinctly good. It states that we shall be able to turn out an average working per month of 1250 cubic yards, and that the stoff would run to about 4 dwts. Now, if this cablegram was confirmed by the mailed report, 4 dwts. of alluvial washing is a very high estimate indeed, and it would give not only a good return, but a really magnificent one. But as this is simply the parent company we do not at this juncture wish to prophesy anything in respect to the future of the African Alluvial Company, leaving it to that company itself to inform the shareholders of the purport of the report when they receive it. You will see from our balance-sheet that we have adopted a very conservative policy. We have put the shares which we hold in the various companies, not at their par value, but at the amount which they cost us. One effect of this is that it does not put a golden frame around our prospects, but I think it is a very business-like proceeding. We can always increase the value of the properties when the market price warrants such a course; and it would then very much more please the shareholders to know that our estimate was made on the ground floor. Now, in regard to our holdings, I am very glad to say that in the balance-sheet you will find that we possess a very large number of the African Alluvial shares—namely, 48,165, and if the report of the expert, as his cable seems to denote, is a good one, that amount will represent five-sixths of the capital of our company. Our capital is only £60,000, and, therefore, it must be a great comfort to us to know that we are in the possession of an asset which may in the future turn out to be of such a value that it will give our shareholders not only good dividends, but very good dividends indeed. In addition to these assets we have a number of claims not yet disposed of, but which, when times get better, we may bring out as another company. And in connection with this, it is satisfactory to know that we have at the present time £10,000 in cash, or its equivalent, with which to assist our future operations. The directors, he might say, had been very conservative in disbursing the company's funds. Their policy has been to spend as little money as possible, but to let their offspring go on developing and expending their means to prove the value of their mines, and thus to increase the value of the shares of the parent company without any outlay on the part of the latter. Naturally, it might be said that the Lion and Tiger companies were only small concerns with a small capitalisation, and, therefore, it may perchance by-and-bye be a commendable policy for the Gold Fields directors to assist these companies, provided their prospects warranted the outlay. So far as our own company is concerned, I think that at the present moment we are in a very sound position indeed, and we trust to preserve that policy by which we shall continue to advance the interests of our shareholders by as little risk as possible. Had not this year witnessed such a disturbed state of affairs in the country it might have been possible to declare a dividend at this meeting. However, a large and gigantic loss has occurred over the whole of the Mashonaland enterprises, and many companies have suffered very severely. But the only thing we have to suffer for is loss of time—we have not lost any money whatever. I may observe in regard to these properties at Massi Kessi that there would appear to be a very high opinion as to the future of the Mozambique country as a mining centre. The position of the mines we are told is admirable—in one or two of them we shall get the Guy Fawkes reef, which is supposed to be a very valuable one. The alluvial mining prospects, according to the cable we have received, are also looking very well, and that being so I think that with a little patience we may anticipate during the coming year a very marked increase in the value of our properties. Therefore, at our next meeting I hope to be able to prove to you that our balance-sheet this year is a very conservative one, because I hope—and in mining all we can do is to hope—that our properties will prove to be as valuable as they are reported to be. Much depends on the course pursued, but if work is more energetically carried out, and the country is in a more pacific state, we may be able to show on our credit side that a very much larger margin of profit is due to us on the shares in the subsidiary companies than what we have hitherto ventured to put down. We have in Mr. Niness a very energetic manager and a gentleman, who, strange to say, has, in spite of the malarial climate of the locality, kept in exceedingly good health. Consequently, during the time he has been there, the supervision of the properties has not at all been neglected. I might also say that it was not any reflection on Mr. Niness that we thought the services of an independent mining engineer were necessary. We felt that the report of an independent gentleman, who was acquainted with the geological formation, and was also a skilful miner, would strengthen their views as to the value of the property. I will now move:—"That the report and accounts be received and adopted."

Mr. C. H. THOMPSON seconded the motion.

Replying to questions, the CHAIRMAN said the expenditure in London had been kept very low, and the directors considered that the fact that the outlay in Mozambique during the recent disturbances had been very small, redounded to their credit, as it meant that the company's money had not been wasted.

The resolution was then put and carried unanimously.

The CHAIRMAN moved the re-election of the retiring director, Mr. W. B. Jeffries, and at the same time wished to express his appreciation of the services of the late secretary, Mr. Henry Richards, who had secured a more lucrative appointment.

The motion was seconded and agreed to.

The auditors, Messrs. Emdin and Todd, were re-elected, and a vote of thanks to the Chairman concluded the meeting.

ANGLO-MEXICAN MINING COMPANY, LIMITED.

The ordinary general meeting of the shareholders in the Anglo-Mexican Mining Company (Limited) was held on Wednesday, at the Cannon-street Hotel, Mr. GEORGE HOPKINS, C.E. (Chairman of the company) presiding.

The SECRETARY (Mr. L. J. Langmead, A.C.A.) read the notice convening the meeting.

The CHAIRMAN said; Gentlemen—I promised at our last meeting that in future we would endeavour to hold our meetings at the time prescribed by our articles, and bring the accounts of the company up to a more recent date. We are here to-day in fulfilment of that promise, but we have only been able to do it by not waiting for the report of our manager. I thought, however, that as he has been so recently appointed it was not worth while asking the manager this time for a report. On reference to the accounts, it is a great satisfaction to the directors to be able to show you such a satisfactory amount of revenue for the year. We have, after writing off £2000 for depreciation of plant and machinery, and set aside £963 for income tax, made a profit in the year of £93,483, or a little over 25 per cent. on the capital. We have paid, as you see by the report, during the year £92,807 10s. in dividends, and since the date of the accounts we have paid two interim dividends, amounting together to £37,123. Now, that result has not been obtained by starving the developments on the mine, because during the year we have spent under this heading more than we did in the previous year. You will notice that prospecting and dead work has cost us £15,085, as against £9000 odd last year. At this time our expenses are a little heavier than usual, and have been so for some time past, because we are erecting cyanide works to treat the tailings, of which we have a large quantity. We are doing some work on an adjoining property called the Todos Santos Mine, on which we have obtained an option for six months, during which time we must satisfy ourselves as to whether the property is worth having or not, and we are also spending a good deal of money in prospecting and opening up the San José Mine. As regards the Todos Santos, we are not yet in a position to say whether it will be worth our while to accept the option or not. As regards the San José Mine, the reports which come from there are very satisfactory and very cheering. I had to tell you last year that since the date of our report the mine was in a worse state than it was at the date of the accounts, but I am pleased to be able to tell you to-day that it is very much better. It has improved in many respects, and without saying too much it looks as if we might reasonably hope for a continuance of the ore bodies in that ground. I have not very much to say to-day, because the report is very full, and so are the accounts, and matters are brought up to as close a date as we shall probably ever be able to bring them up to—namely, June 30. As regards the probabilities of the next dividend, I am not in a position to say anything about that, but we have given instructions, and those instructions are being carefully carried out, that notwithstanding the amount of work that may be going on at our mine, or at the adjoining mine, or in the erection of the cyanide plant, the whole expenditure on these things must not, under any circumstances, exceed the output. In other words, we have decided that the money we had in hand shall not be encroached upon. Ever since the date of the accounts that instruction had been strictly carried out, the profit we have made each month has been over and above the expenditure, and the money we had in hand on June 30 has been increased. Therefore, I think the prospects of an early dividend are within a reasonable distance. Sometimes one wonders at what goes on in the newspapers and in the Stock Exchange, and it does seem strange to me that a property which last year made a profit of £107,000, and this year £92,000, should not be known on the London market. I suppose if any of the shareholders wished to sell their shares they would find it difficult to find purchasers, because the property is not known, whereas there are scores of mines which I do not name, but a good many persons do name them rubbish, and which are quoted day by day, although they have never paid a dividend. There are also many other companies whose shares stand at a high premium; they, however, never have made money by mining, but simply by taking up leases or buying them, and selling them at a large profit. I have no more observations to make but simply to move the adoption and reception of the report and accounts, and after that has been seconded, I shall be very pleased to answer any question, or hear the remarks of any honourable proprietor.

General HOPKINSON seconded the resolution.

Mr. LEWIS wished that more information had been given them in regard to the workings of the mine.

Mr. INGRAM asked whether there was any possibility of getting a Stock Exchange quotation, as he thought that would tend to improve the value of their shares. He also wished for particulars of the item of £1600, fees paid to experts, &c.

Mr. MCCULLOCH said, seeing that two-thirds of the capital of the company was held in America, it was an impossibility to make a freer market for their shares in London.

The CHAIRMAN said before he answered the questions he wished to supplement his remarks, with reference to the £50,000 which they had set aside for the reduction of the property purchase account. When they purchased the San José Mine they had to pay for it, and also equip it, out of their revenue, because they had no capital. They would notice in the accounts for June 30, 1895, that there was standing to the credit of revenue no less than £132,540. But at that date part of this sum had been used for purchasing and equipping the San José Mine, and, therefore, that amount was not available for revenue purposes. It was for that reason that they had proposed to set aside £50,000, and not as much as had been suggested by Mr. Lewis for the purpose of writing down the value of the Las Yedras Mine. In regard to the request for more information in order that shareholders might be more fully acquainted with the operations was most difficult. They sent their monthly returns out to the Press, and invariably they were published, but if they attempted to give a synopsis of the numerous reports they had from their manager, he was afraid they laid themselves open to the charge very often made against directors that they sent out garbled accounts. As to the question of getting a Stock Exchange quotation, he did not think that was possible in view of the fact that two-thirds of the capital was held in America by gentlemen who apparently did not wish to part with their shares. The reason why the Yedras Mine had been shut down was that it would not pay, principally because of the low price of silver. In addition, the ore was of lower grade than it had been, and both the directors and the American committee made up their minds that if the mine could not be worked at a profit they had better shut it down altogether. Whether the Yedras Mine would ever become a valuable asset remained to be seen, but to work it under present circumstances would only be wasting money. The sum of £1678 paid to experts included the fees paid Mr. Batcheller, who had been out on the property some time to ascertain the best mode of working the tailings, and the fees of another expert under whose advice Mr. Phillips was now opening up the mine. Then there was another payment to the widow of a Mexican gentleman, who had acted for the company, but had never rendered any account. The ore which they had been milling lately had not been particularly rich. The last monthly return was $36,000 from 1700 tons, or a little over $20 a ton. However, they had much richer ore than that in the mine and in the developments which were now proceeding.

The resolution was then put and carried unanimously.

The CHAIRMAN moved the re-election of the retiring director, General Hopkinson.

Mr. MAUGHAN seconded the motion, and it was agreed to.

Mr. LEWIS moved the reappointment of the auditors, Messrs. Deloitte, Dever, Griffiths, and Co.

Mr. MCCULLOCH seconded the resolution, which was carried.

On the motion of Mr. MCCULLOCH, seconded by Mr. LEWIS, a hearty vote of thanks was accorded the Chairman and directors.

The CHAIRMAN, in reply, assured the shareholders that the directors always had their interests at heart.

A vote of thanks to the American committee was passed unanimously, and the meeting then terminated.

CONTINENTAL AND WESTERN AUSTRALIAN TRUST, LIMITED.

The second ordinary general meeting of shareholders in the Continental and Western Australian Trust (Limited) was held on Wednesday last at Winchester House, E.C., the chair being occupied by Colonel R. PARRY NISBET.

The SECRETARY (Mr. A. S. Rowe) read the notice convening the meeting.

The CHAIRMAN, in moving the adoption of the report and accounts, said the report referred to the success which had attended the operations of the company in the colony. As the shareholders were informed, there were some promising properties in hand, some of which were purchased outright, while others were being developed by the company's engineers under option. The richness of some of these properties was very remarkable, and there was no question whatever that the policy pursued by the directors and their advisers had had the effect of securing for the company some very exceptional results, at a cost which must have been vastly exceeded under any other scheme of operations. The payment of high prices for the options, notwithstanding the keen competition which had existed, had been systematically discouraged, and in no case had the purchase of a mining property been completed until it had been developed for a considerable time. It was difficult to convey any idea of the enormous amount of work which had been done by the company in Western Australia in examining and testing mining properties, and the skill and care which had been exercised in the selection enabled the directors to place unusual confidence in the properties which had been selected. Unfortunately, however, their value could not be made to appear in the balance-sheet. The state of the mining market since the purchase of these properties had, unfortunately, rendered all attempts at floating them impossible, and the only way of showing them in the balance-sheet was to count as an asset the actual amount expended upon good properties up to date. Reference to the accounts would show that this amount figured out at £10,417, and it was no exaggeration to say that the properties in hand and under option represented an asset which might most fairly be valued at many times that amount. There was, on the other hand, an amount written off the profit and loss account in respect of properties abandoned, which was £12,874, representing various amounts paid for option money on properties which had been abandoned. This was an item which must necessarily figure largely in the accounts of every exploring company, and no doubt the shareholders would agree that when the enormous area of the West Australian gold fields was considered, and the long distances which had to be covered, together with the high prices of all materials, provisions, and wages, the company's colonial expenditure had been kept within moderate limits. The amount was by no means lost to the company. Of course, in floating and disposing of properties they knew to be sound and valuable, they hoped to recover the total expenditure of prospecting properties, whether eventually purchased or not. He hoped that the shareholders would take these considerations into account, and that the result of the company's operations when the markets improved would quickly establish an equilibrium in the accounts, and show a very considerable profit. Since the date of the balance-sheet the company's managers had been conducting some important negotiations, which would probably result in two properties in hand being disposed of on very satisfactory terms. A further property had been put under option to another company at a price which would give a large cash profit when the purchase was completed. The organisation in the colony had proved itself to be on an excellent basis, and the gentlemen representing the company in the goldfield had evidently earned the confidence of the mining community, and were thus likely to be brought very early into contact with any striking and promising discoveries. On some of the options recently taken

by the company assays had yielded results of 5, 11, 7, and as high as 21 ounces per ton. Another amount appearing in the profit and loss account to which he might refer was the sum representing a depreciation in the value of the company's shareholdings. These, however, had not been realised, so that no real loss had been incurred. This, however, was a great disappointment to the directors, inasmuch as they had counted upon being able to realise profits on some of their shares, and to pay a dividend from the proceeds. Too much importance should not be attached at times like the present to current market prices, upon which the valuation of these shares had been made. The concerns in which the company was interested were, in almost every case, in an improved condition, compared with what was the case when the shares were quoted much higher on the market, and the directors were convinced that by carefully nursing their holdings, profitable realisations would eventually be made. The total amount of the depreciation, moreover, was barely 21 per cent. of the original cost. There was no necessity for him to enlarge upon the great rapidity with which fluctuations occurred in mining and kindred shares, and it was possible that when a recovery in the West Australian market set in the nominal loss of 21 per cent. might in a very few days be turned into a profit of, perhaps, an equal amount. It was impossible that they could have failed to notice certain signs of improvement which had latterly occurred in that market, and, as an instance of this, he might mention the Hannan's Brownhill Company, in which they were fortunate enough to hold a very considerable interest. There was reason to believe that similar improvements would take place in the other shares held by the company. Sooner or later the prices could hardly fail to advance, the investing public realising the incontestable value of the properties. In addition, it should be pointed out that the company had some important holdings of shares which were not readily marketable, and for which no quotation existed upon which a correct valuation could be placed. In such cases the shares had been taken at cost. As an instance, he might mention that the company held an exceedingly important interest in the Melville Water Park Estate (Limited). This company owned 4500 acres of land on the south side of the Swan River, facing the City of Perth, and was formed and the working capital entirely subscribed by various exploration and finance companies. Their own company had in this played an important part. No shares were paid to the vendors, and the working capital was employed in purchasing the estate and providing money for developments. The vendors handed over the property without any intermediate profit, and in addition subscribed so large a number of shares that they were themselves at the present time the largest individual holders in the company. The estate was being well developed, was most picturesquely situated, well wooded, and had many commercial advantages due to an extended river frontage. Jetties were being constructed, and two were completed. Two large passenger steamers were being dispatched by the company before the end of the year, and a regular passenger service would be established between the Estate and Perth City. No doubt when this was done the company would be able to effect considerable sales of land, some suitable for private residences, and others for commercial uses, such as factories and so on. The prospects of the company were, therefore, most satisfactory and justified very large expectations. Despite the fact that there had been as yet no free market in the shares, a certain demand had sprung up for them, and offers had been made to the holders from the Stock Exchange at a high premium, without success, because all the holders regarded the future with such confidence that they estimated the present value of the shares to be four or five times the issued price. Still, for purposes of the account, the shares had been estimated at cost price. It was quite conceivable that the depreciation on shares, shown in the profit and loss account, might be extinguished very shortly out of their holding in the Melville Water Park Estate alone. It was anticipated that when the directors had again to place a statement before the shareholders, the circumstances now prevailing in the market would no longer exist, and they might then be in the position of having a very satisfactory report to present of considerable profits earned. The Chairman concluded by moving the adoption of the report and accounts.

Mr. LEE SMITH said that the only fault he had to find with the leaders of the mining industry in Western Australia was that they had been somewhat too sanguine. It was not, he might point out, likely that the Government of the colony would have spent so large a sum of the public money in the provision of water, and the construction of railways, unless they knew that the mining industry would turn out well

Mr. ALGERNON MOREING said he could not agree with the last speaker that the people engaged in the West Australian mining industry had been too sanguine. He could not confess to having been too sanguine, either with regard to the West Australian industry generally, or to the prospects of their company. He quite agreed that the shareholders in their company needed patience, and he thought they had exhibited that quality. With regard to the balance-sheet, he could not say that he considered it fairly represented the actual condition of the company's affairs. With all due deference to the auditors, who were known to be among the best in London, he did not think that the accounts were correct in showing the amount expended on properties which had been abandoned as a loss. It certainly was not a loss in the true sense of the word. An exploration company such as theirs must take their whole district as a unit. With their eyes open they had taken options on 30 properties knowing that only some two or three of these would give a return upon the money expended upon them. That company had more properties than any of the other companies in Western Australia, and their agents had probably done more exploring than those of any other similar enterprise. In the balance-sheet submitted the whole of the travelling expenses, &c., incurred by these agents, had been entered as a loss, while one of the properties, worth, perhaps, £100,000, had been entered as worth £745. No doubt the directors were disappointed in not having been able to declare a huge dividend at the first meeting like some of the other exploring companies. It had, however, been the endeavour of the directors never to put on the market a mine that was rotten, and that they should never make any mistake or failure from the first. It was with this object that Mr. Hooper, who was well known in the colony as a most prudent, if not pessimistic man, was appointed to represent the company. When, therefore, the company first began operations they developed extensively every property that was touched, and while this was being done there came the unfortunate depression in the West Australian market, and there was no opportunity of making profits on share dealings. Mr. Moreing then proceeded to refer to the company's chief property, saying that one result of the visit of Mr. Dunsford to the colony, as their agent, had been the acquisition of the most valuable Warconga leases, which they believed to be equal to anything which had yet been found in Western Australia. The company's properties had all been carefully selected and carefully developed, and they would represent a large amount of money when they came to be floated. Altogether he considered that their company stood in the front rank of West Australia Exploring Companies. There was no company which managed its business so carefully, and nobody would be ever able to point to the Continental and Western Australian Trust, and say that they had floated a rotten mine. He felt sure that when their mines came to be put upon the market they would be eagerly snapped up, more especially by the Continental shareholders, of whom they had a very large number.

Mr. DUNSFORD then gave them some particulars of the company's properties which he had visited upon his recent trip to West Australia, saying that the quartz prospects of the Waroonga were certainly the best he had ever seen, that he had very good reports of the Champion leases, and that the Melville Waterfall Estate would undoubtedly turn out to be a very valuable one.

Mr. SIDNEY LOCOCK seconded the report and accounts, which were unanimously adopted.

On the motion of Mr. MOREING, the auditors, Messrs. Monkhouse, Stoneham, and Co., were reappointed, and the proceedings terminated with a vote of thanks to the Chairman and directors.

TRUE BLUE (HANNAN'S) GOLD MINE (LIMITED).

The second ordinary general meeting of the shareholders in the True Blue (Hannan's) Gold Mine (Limited) took place on Monday, at Winchester House, E.C., when the Chairman (Mr. H. W. Blundell), in moving the adoption of the report and accounts, said unfortunately Mr. Pascoe, who was sent out to the property, had been unable to find the rich ore bodies spoken of by the vendors, in spite of the large amount of development work which had been done. In consequence, it had been suggested that Mr. Hurst, who was largely interested in the property, should take over the management, a course which the directors were quite willing to adopt.—After some discussion, the meeting was adjourned for the purpose of effecting the proposed change in the management.

TRIUMPH (HAURAKI) GOLD MINES (LIMITED).

The first annual ordinary general meeting was held on Tuesday, at Winchester House.—Mr. Curwen Sisterson, who presided, said so far as developments were concerned they were thoroughly satisfied that they had in the Triumph (Hauraki) Mine a mine of considerable value, and a mine that would pay when additional capital had been obtained. They had two schemes for raising additional funds, which they laid before the shareholders. The Chairman moved, and Sir Charles Cunninghame seconded, the adoption of the report and accounts, which was carried. The question of raising additional capital was, after some discussion, left in abeyance.

WEST AUSTRALIAN GOLD CONCESSIONS COMPANY (LIMITED).

An extraordinary general meeting of this company was held on Tuesday, at Winchester House, Old Broad-street, for the purpose of considering, and, if thought fit, passing resolutions for voluntary winding up and reconstructing the company. Mr. E. D. Oppert, who presided, said a number of preference shareholders had approached the directors a considerable time ago asking them whether there was not some possibility of merging the two classes of shares into one by allowing them to give up their preference shares and convert them into ordinary shares. The reason for doing this was that there was a more open market for ordinary than for preference shares. The directors themselves had no interest whatever either way. The matter was entirely in the shareholders' hands, and they did not wish to influence them one way or the other. It was entirely for them to decide whether the company should be re-registered under the same name, with the same capital, the same assets, and with one class of shares or two. Mr. Byrne proposed, and Mr. Town seconded, (1) "That it is desirable to reconstruct the company, and, accordingly, that the company be wound up voluntarily, and that Mr. John Frederic Copeland be appointed liquidator;" (2) "That the liquidator be authorised to consent to the registration of a new company, whose name shall be the same as this company;" and (3) "That the draft agreement necessary be authorised and the liquidator be empowered to carry it into effect."—Upon the question being put the resolutions were carried by 11 votes against 2.

RHODESIA (LIMITED).

The second ordinary general meeting of the Rhodesia (Limited) was held at Winchester House on Tuesday. Sir George Campbell, who presided, in moving the adoption of the report, said that after the long period of stir and strife in Rhodesia, which had proved disastrous to many enterprises, it was pleasing to him to meet the shareholders of that company under such favourable circumstances. At the time of flotation of the company the authorised capital was £200,000 in shares of £1 each, which was subsequently increased by the creation of 100 000 shares of £1 each, making the total authorised capital £300,000. The result had been the flotation of three subsidiary companies out of the company's holding of mining claims. In addition to a net cash profit of £10,829, the company had earned a share profit from the flotation of the Eastern Queen's Gold Mining Company (Limited) and the Criterion Development Company (Limited). The main profits of the company had been made on mining property, and it was one of the principal aims of the directors to interest themselves in all sound industrial schemes in Rhodesia. There was every prospect of a bright future for the company. He could not, however, conclude his remarks without referring to the part which the British South Africa Company, and especially Mr. Cecil Rhodes, had taken in the progress of events in South Africa during the last 12 months. Their conduct was deserving of the highest praise, both for the way in which they had dealt with the cattle trouble, and for their vigorous action in suppressing the native rising. (Hear, hear.)—Mr. R. J. Price, M.P., seconded the adoption of the report, which was agreed to

CLUTHA GOLD MINES (LIMITED).

The ordinary general meeting of this company was held on Tuesday, at Winchester House.—Sir Luther Vaughan, who presided, said the mine must be considered a low grade one, but the work done was distinctly encouraging. A proposal had been made to them to unite in one large concern the Clutha properties and several properties which adjoined. He believed the negotiations would be brought to a satisfactory issue. The Chairman having moved the adoption of the report and accounts, Mr. Arthur Hutton seconded the motion, which was carried.

RAMAGE SYNDICATE (LIMITED).

An extraordinary general meeting of the shareholders in the Ramage Syndicate (Limited) was held on Tuesday, at Winchester House, E.C., to elect three directors and to receive a statement from the Chairman and managing director (Mr. S. De Lissa) with regard to the position and prospects of the syndicate.—Mr. De Lissa, who presided, explained that, owing to the pressure of private business, Mr. Hetherington White and Mr. T. Matesdorf had resigned their seats at the board, leaving Mr. A. S. Hoskins and himself the only remaining directors. Unfortunately most of the companies which they had promoted were not turning out as they had been led to believe would be the case. Among other matters in dispute was that of indemnifying the Golden Plum—one of their subsidiary companies—by giving it other properties owing to the unsatisfactory nature of those originally sold to it. It appeared doubtful if the syndicate would ever do any good in the future under its present title, and he, therefore, suggested that it might be advisable to go into liquidation. Of the 175,289 shares which they held in various companies, 81,936 might be regarded as of no value, while the remainder would produce, perhaps, £20,000. This, with the cash in hand and other assets they had, would give them a total of £49,943. Taking into consideration the dividends that had been declared a liquidation at the present time would result in the shareholders having returned to them three times the amount of their original subscriptions.—A resolution for appointing Mr. S. D. Stoneham, Mr. Raphael Bensusan, and Mr. Mowatt as directors was carried.

WATER TRUST, MINING, AND PUBLIC CRUSHING COMPANY OF WESTERN AUSTRALIA (LIMITED).

The second ordinary meeting of this company was held on Tuesday, at Winchester House.—Mr. G. H. Hargreaves, who presided, moved the adoption of the report. He explained the difficulties which had had to be overcome at the mine, owing to which the manager found himself unable to have the mill ready to run until March. The water supply prospects were extremely encouraging, and they were able to send large quantities to the gold fields for sale. He spoke of the disappointment they had met with regard to the Golden Pig Mine, and stated that it was deemed advisable to carry on further work on that property. As to the New Victoria South Mines, he dealt with the satisfactory character of the development work, remarking that the general manager telegraphed as follows on November 27:—"On the 100 feet level, west drift, developments opening up splendidly. Fortnightly output, 4 ounces 5 dwts. per ton." As to the proposed issue of £30,000 debentures, for the purpose of providing working capital, he pointed out that their financial position had, of course, changed very considerably since the date of the balance-sheet. There was no doubt that by the time the mill was ready for work the available funds would have come to an end. There was a likelihood of a fine property, situated close to the railway line at Coolgardie, being purchased by the company on exceedingly favourable terms. The general manager strongly advocated the purchase, because the property appeared to contain very large ore bodies, giving on an average over 1 ounce of gold to the ton. An option upon the mine for six months was offered to the board on payment of only £200, the purchase price, if they exercised the option, being £2000 in cash and 2000 fully-paid shares of the company. The directors were of opinion that the advantages offered by the acquisition of such a property ought to be secured without hesitation. The necessities of the company were urgent, but if the money were provided he thought they could look forward with the utmost confidence, and they ought to be in a dividend-paying condition before the next meeting.—The report was adopted, and a resolution giving the directors power to raise the debentures was approved.

GROOTFONTEIN EXPLORATION COMPANY (LIMITED).

The second ordinary general meeting of the shareholders in the Grootfontein Exploration Company (Limited) took place on Tuesday, at the Cannon-street Hotel.—Mr. Nicol Brown (the Chairman) said that the authorised capital was 125,000 shares, of which 82,000 had been issued, leaving 43,000 shares in reserve. The item of £4532 represented the cost of the whole preliminary work, in commencing prospecting, in getting the boring apparatus in order, and in sinking to the depth of 237 feet. The work was divided into two divisions—boring and surface prospecting. The record of the bore, as shown in the section accompanying the report, was perfectly clear, and did not appear to be disturbed by the dislocation of the ground, while it was, as far as they could judge, above the zone of the Great Theta deposit. How long it would take to reach that, he could not say, but he believed it must be near it. With regard to prospecting, a number of test shafts had been put in at different places, calculated to strike the seam known to exist in the upper dolomite limestone in nearly every part of the surrounding country. This they were advised had been successful on the west side of the property, 166 feet from the surface. One of the proofs that the reef was most probably the equivalent of the Theta deposit was that it occurred about 350 feet under the zone of shale contact deposit. This was the distance that the Chi deposit was placed under the shale contact deposit, and the Chi and Theta were believed to be one and the same. They were very hopeful that the workings on the Theta deposit, which they termed the west drive, would soon give increased assays of gold contents, and also that borehole No. 1 would reach that part of the Theta deposit, lying under foot, at an early date.—The report was unanimously adopted.

BROOKMAN BROTHERS' BOULDER GOLD MINING COMPANY (LIMITED).

The first ordinary general meeting of the shareholders in Brookman Brothers' Boulder Gold Mining Company (Limited) was held on Tuesday, at Winchester House, E.C.—The Chairman (Mr. R. V. Barrow), in moving the adoption of the report and accounts, said the machinery had now been ordered, and although only a 10 stamp battery was to be erected at first, provision was being made for 30 stamps to be added at a future date. Although they had lost the services of Captain Oats, it was not through any disagreement. His position as manager had been given to Mr. D. O'Neil, whose mining experience was a considerable one. The water difficulty had been easily overcome. A cablegram, dated December 18, stated, "4000 gallons of water every 24 hours, battery not yet erected, 350 tons of ore in stock, 1500 tons in sight. Golden Gate sunk 586 feet, Marvel 504 feet."—Mr. Strain seconded the resolution, and it was carried.

MILLS' DAY DAWN UNITED GOLD MINES COMPANY (LIMITED).

The half-yearly general meeting of shareholders was held at Messrs. E. D. Miles and Co.'s offices, Mosman-street, Charters Towers, on Monday, October 19, at 4 o'clock p.m., Mr. Edward David Miles, J.P., the Chairman of directors, presiding.—The notice convening the meeting having been read by the secretary, the minutes of the last meeting were read and confirmed.—On the reception of the directors' report and accounts the same were adopted.—Messrs. E. D. Miles and F. Pfeiffer were re-elected directors.—The retiring auditors, Messrs. R. Williams and A. E. Harte, were re-elected.—A vote of thanks to the Chairman concluded the meeting.

INVICTA GOLD MINES (LIMITED).

The ordinary general meeting of the shareholders in the Invicta Gold Mines (Limited) was held on Monday, at the offices, 23, Abchurch-lane, E.C., when the Chairman (Mr. E. Rawlings), in moving the adoption of the report and accounts, stated that the company was formed for the purpose of acquiring the working of very large gravel deposits in British Columbia. These beds were estimated to contain between 20,000,000 and 30,000,000 yards of gravel, and the amount of gold which they had recovered during the very short period the mine had been in operation was, to his mind, very satisfactory. Although the amount was small, it proved to them that the gravel contained gold in appreciable quan-

tities, as only 63,000 yards were washed for a return of 277 ounces, or an average of 7 cents per yard.—The manager, in his report, stated:—"From the experience and knowledge gained of the different portions of your property, the rich ground of the north, and with improving ground in the south, I am fully justified in assuring the directors of my belief that next year will place the company on a profit-earning basis.—Mr. R. Pearce seconded the resolution, and it was carried.

HARMONY GOLD AND LAND COMPANY (LIMITED).

The fourth ordinary general meeting of the shareholders in the Harmony Gold and Land Company (Limited) was held at Winchester House, E.C., on Tuesday, when Mr. J. Procter (Chairman of the company), in moving the adoption of the report and accounts, stated that during the year they had discharged, by means of a debenture issue, a number of liabilities which they were compelled to pay under an agreement. Many difficulties had to be contended with, and in consequence of their stores being exhausted operations had been suspended for the present. Notwithstanding this they were in a position to sell three or four properties, situated at Sterkloop, whenever a favourable opportunity occurred. In addition, they were in possession of a number of freehold farms in Zoutpansburg and Waterburg districts, which were proving very remunerative. Commander F. C. De Lousada seconded the motion, and it was agreed to.

NORTH KALGURLI GOLD MINES COMPANY (LIMITED).

Mr. Henry J. Bristow, who presided, in the absence of the Chairman, at the meeting of this company on Tuesday, at the Cannon-street Hotel, said that the progress made on the company's property had not been so rapid as might have been hoped. Two new "finds" of good ore had been found, one of which appeared to be of great promise. Reef No. 4 had so far been the most profitable one on their property, and it appeared to gain in richness in the lower levels. The water supply was not yet quite sufficient, but it was expected that the further sinking of the main shaft would obviate this difficulty. There was no doubt that gold was widely dispersed throughout the property.

PREMIER TATI MONARCH REEF COMPANY (LIMITED).

The second ordinary general meeting of this company was held at Winchester House, on Tuesday.—Baron d'Erlanger, who presided, in moving the adoption of the report and accounts, said he would endeavour to give the shareholders the results achieved in overcoming the water difficulty with a total expenditure of about £1700 on water development to September 30. Their present battery consisted of 30 stamps. The average consumption per stamp was four gallons per minute. Hence the 30 head of stamps required 120 gallons per minute, or 7200 gallons per hour, or 172,800 gallons of water per day of 24 hours. Mr. Jones estimated that, even in an exceptionally dry season, they could reckon on a minimum supply of 120,000 gallons per day from the river and the mine with the help of the two small dams at the pumping station. The water rights at Bushman Creek, when that was dammed, would give them an extra reserve of 4,000,000 gallons, or sufficient to supply a further 30 stamps. The work to be done at Bushman Creek was estimated to cost under £2000. Turning to the company's mine, the Chairman said that all he had to state in this respect was satisfactory. A true fissure vein had always been the desideratum of every quartz mine. There were several features in a mine on which engineers mostly relied in forming their judgment as to whether a vein was a true fissure vein or not. Amongst these features the most important, and the one on which they could best rely, was whether the lode was a contact vein. If a vein was a contact vein, there was every probability of it being a true fissure vein. A contact vein was a vein of which the hanging and foot walls belonged to two different formations. Such was the case in the Monarch Mine, where the granite formation or country rock formed the footwall of the vein, and the schistose rock the hanging wall. Both walls were perfectly strong and well defined, whilst the continuity of the strike line added also greatly to the expectations of continuity in dip. Owing to the short time at their disposal since the arrival of Mr. Jones, the project for raising the necessary sums for the immediate acquisition of the cyanide and air drill plant had not been definitely settled. All he could say was that the shareholders would be offered the opportunity of subscribing to whatever issue might be decided upon. Shareholders were, no doubt, anxious to know when milling, which was identical to earning, would be resumed. They would have to wait for the new crop of mealies, or till the railway was near enough to provide the men with cheap food. They must not begin milling before they could see their way to do so for a stretch, without stoppages.—The report was adopted.

CAYLLOMA SILVER MINING COMPANY (LIMITED).

The ordinary general meeting of the shareholders in the Caylloma Silver Mining Company (Limited) took place at the Law Association Rooms, Cook-street, Liverpool, on Friday in last week, Mr. George Hopkins presiding.—In moving the adoption of the report and accounts, the Chairman said the total receipts for ore and bullion together amounted to £31,229, as against £57,216 in the previous year. This was occasioned, not only by the falling off in the quantity of ore produce, but also in the quality. There were several causes which led to the falling off in the returns, and the first was that they were inundated with water. Another reason was the want of sufficient working capital to enable the property to be worked in a minerlike manner. No one would doubt but what the mines themselves were very valuable, the export value of the ore last year being over £48 per ton. Every ton of ore sent to England contained in silver and gold an equivalent equal to 12½ ounces of gold. The total expenditure during the year had been £38,949, but the balance carried forward from last year enabled them to discharge their liabilities, and still have a balance of £962. The returns from the mines for November and December showed a slight improvement; while, in addition, the working expenses had been reduced.—Mr. Hammond seconded the motion, and it was agreed to.

GOLDEN LEAF (LIMITED).

The seventh ordinary general meeting of the Golden Leaf (Limited) was held on Tuesday, at Winchester House, Old Broad-street, E.C.—Mr. John B. Ball, who presided, said the Golden Leaf, since the realisation of its American interests, had been practically an exploring and development company, with a preference for Western Australia. They had recently sent out a new manager to Salisbury Murchison, whose reports were fairly satisfactory.—The report and accounts were adopted.

KALGURLI GOLD MINES (LIMITED).

The first ordinary general meeting of the shareholders in the Kalgurli Gold Mines (Limited) was held on Tuesday, at Winchester House, E.C., when Colonel Robert Baring, who presided, stated that in common with other Australian companies, they had had many difficulties to contend with. However, the manager had recently been devoting his attention to prospecting and surface developments, and the results had, so far, been very satisfactory. He concluded by moving the adoption of the report.—Mr. Patrick Comiskey, in seconding the motion, dealt in detail with the operations that had been carried out during the year. They had ascertained that there was a large lode formation, varying in thickness from 100 feet to 500 feet going right across the property. At several places there were narrow leaders carrying very good gold, and provided that they had a good supply of water they could profitably employ 100 head of stamps.—The resolution was carried, and a vote of thanks to the Chairman concluded the meeting.

90-MILE (GOONGARRIE) CONSOLIDATED GOLD MINES (LIMITED).

The statutory meeting of the shareholders in the 90-Mile (Goongarrie) Consolidated Gold Mines (Limited) took place at the offices, 16, St. Helen's-place, E.C., Mr. J. Newmarch presiding.—The Chairman stated that before the company acquired the properties held by them they had been developed to a certain extent by a syndicate. A parcel of ore taken from the Royal Mint lease had been found to be worth 4 ounces 7 dwts. 9 grains per ton, and another feature in favour of the properties was that the vendors were quite willing to accept payment in shares.—Recent reports from Australia informed them of the satisfactory nature of later developments, and on Saturday they received intimation that a trial crushing had been commenced. Captain Oats, who had examined the property, was very favourably impressed with the prospects.—A vote of thanks to the Chairman concluded the meeting.

AFRICA TRUST (LIMITED).

The first ordinary general meeting of the shareholders in the Africa Trust (Limited) was held on Wednesday, when Mr. H. Rider Haggard, who presided, in moving the adoption of the report, said that South Africa had been passing through a period of great political and financial stress, and this state of affairs had naturally affected all ventures connected with it. The company had not escaped the result of these troubles, although it had been able to pay a dividend of 10 per cent. since its incorporation. During the course of the year the board were able to announce that they had secured a call of no less than 57,000 of the reserve shares of the Buluwayo Estate and Trust Company for a period of 18 months. Among other assets, they had a large interest in an undertaking called the African Concessions Syndicate, which was formed to carry out a scheme for using the water of the Victoria Falls, on the Zambesi River, with the object of utilising it to generate electricity and supply it to the various centres of population throughout Rhodesia, in the form of power to work stamps, mills, &c.—Sir B. Frere seconded the motion, and it was agreed to

PROSPECTORS OF MATABELELAND (LIMITED).

The second ordinary general meeting of the shareholders in the Prospectors of Matabeleland (Limited) took place at Winchester House, E.C., on Wednesday, Mr. R. C. Richards presiding.—In moving the adoption of the report, the Chairman said that, in spite of the Matabele revolt, he was happy to state that their three farms had materially increased in value, while the same remark applied to the three town sites.—Mr. F. B. Grey, who seconded the motion, said the more he saw of Rhodesia the more firmly was he convinced of its value. They had 500 claims at their disposal, but even if only 50 turned out well the shareholders would get their money back many times.—The resolution was, after considerable discussion, carried unanimously.

LONDON-PARIS FINANCIAL AND MINING CORPORATION (LIMITED).

An extraordinary general meeting of the shareholders in the London-Paris Financial and Mining Corporation (Limited) was held on Wednesday, at Winchester House, E.C., under the presidency of the Hon. H. A. Lawrence, when the resolutions passed on the 7th inst., sanctioning the provisional agreement between this company and the London and Globe Finance Corporation (Limited), and, in pursuance of that agreement, increasing the capital of the corporation to £1,000,000 by the creation of 500,000 new shares of £1 each, were unanimously confirmed.

BEMBESI DISTRICT GOLD CLAIMS (LIMITED).

The second ordinary general meeting of the shareholders in the Bembesi District Gold Claims (Limited) was held on Wednesday at the Cannon-street Hotel, when Colonel the Hon. C. G. Gathorne-Hardy, who presided, in moving the adoption of the report and accounts, said; Unfortunately, on account of recent events, very little work had been done on the property, and operations could not now be resumed again until the rainy season was over. Personally, he had great faith in the future of Rhodesia.—Mr. H. Connop seconded the resolution, and it was carried.

"BLOCK 45" HAMPTON PLAINS ESTATE (LIMITED).

The first annual general meeting of the shareholders in the "Block 45" Hampton Plains Estate (Limited) was held on Wednesday last, at the Cannon-street Hotel, E.C.—Mr. W. A. Bevan, in moving the adoption of the report and accounts, said that there was an impression abroad that the company owned a gold mine. This, however, was not the case. The company purchased for the Hampton Plains Estate (Limited) a large block of land, consisting of nearly 19,000 acres, or about 30 square miles. A considerable amount of prospecting work had been done, and one part especially was believed to be very rich. Considering that the manager had only been on the spot six months, during the greater part of which time he had been laid up with pneumonia, it was not surprising that no more work had been done. The Chairman then proceeded to describe in detail the actual condition of the properties, and explained that the water difficulty had been partially overcome by the discovery of water in one of the shafts. The directors believed they had a valuable property, and in the event of it turning out well the directors would consider how best to deal with any reefs of size which might be discovered.—Lord Arthur Butler seconded the motion for the adoption of the report and accounts, which was carried.

CITY OF LONDON EXPLORATION SYNDICATE OF WESTERN AUSTRALIA (LIMITED).

The annual meeting of the shareholders in the City of London Exploration Syndicate of Western Australia (Limited) was held at Winchester House, E.C., on Wednesday. — Mr. Robert Harvey, who presided, stated that the meeting had been called *pro forma* to comply with the provisions of the Articles of Association, but as no accounts had yet been made up it was proposed to adjourn until a later date. The board had sold 24 of the 48 acres comprising the Golden Cliff property. Whether they disposed of the remaining 24 acres or developed them for the benefit of the syndicate would depend on circumstances. The attention of the board had not, however, been confined to the acquisition and resale of the Golden Cliff property. The syndicate was formed primarily to equip an expedition to search for properties with a view to their being resold in London. After stating that it was proposed to make the accounts up to the 31st inst., he moved the adjournment of the meeting until March 29.—Mr. Collier seconded the motion, and it was agreed to.

FRONTINO AND BOLIVIA.

The directors have received advices from Mr. John Penberthy, dated October 25 and November 8, also a letter from Messrs. Restrepo, dated October 12. The statement for the month of October is as follows:—Bullion, 3136 tons produced 4521 ounces; bullion, tributors' gold produced 133 ounces; total 4654 ounces. Also 700 lbs. of sulphurets, valued at £74 5s. 10d. Estimated value of the gold and sulphurets, £10,256 15s. 7d. Cost at the mines, Medellin, and in London, £5701 10s. 8d. Estimated excess of returns, £4555 4s. 11d.

The board of the [Lautaro] Nitrate Company (Limited) has declared an interim dividend at the rate of 10 per cent. per annum (5s. per share) for the current year, payable on January 4, 1897.

DIARY.

Monday, December 28.

Thomas' Reefs (Sheba), Cannon Street Hotel, 1.
Joe's Reef United (Sheba), Cannon Street Hotel, 1.30.
Birthday Amalgamated of Western Australia, Win. Ho. 12.
Tigerfontein Gold, Winchester House, 12.
Sneddon Concessions, Winchester House, 12.
Banner Gold Mine, Winchester House, 1.30.
Rice Hamilton Exploration, Winchester House, 2.

Tuesday, December 29.

Consolidated Gold Mines of Western Australia, Win. Ho., 12
Lomagunda Development, Winchester House, 12.
Tin Ticketing, Tabb's Hotel, Redruth, 1.
Ophir Concessions, Cannon Street Hotel, 12.
African Gold Recovery, Cannon Street Hotel, 12.
Cootzeestroom Estate and Gold, Winchester House.
St. Helen's Development, Winchester House.
S. African General Development, Winchester House, 11.30.
Carrington Gold, Winchester House, 12.
Carlyle Gold, Winchester House, 12.
Ripanji Quicksilver, Winchester House, 1.
Vaal River Diamond, Winchester House, 1.30.
Ashbourne Gold, Winchester House, 2.
Tamworth Gold, Winchester House, 3.

Wednesday, December 30.

Total Gold Extraction, 32, Old Jewry, 11.
California Milling and Mining, Cannon Street Hotel, 2.30.
Great Boulder South.
Rio Tinto, Cannon Street Hotel, 2.
Gold Fields of Matabeleland, Cannon Street Hotel, 2.30.
New Chum Gold Mines, London Tavern, 3.
United Gold Reefs of Manica, Cannon Street Hotel, 11.
Elephant's Kloof, Cannon Street Hotel, 11.
United African Mines, Cannon Street Hotel, 12.
White Feather Main Reef, Cannon Street Hotel, 12.
Moore's Rhodesia Concessions, Cannon-street Hotel, 2.
Gold Explorations, Cannon-street Hotel, 3.
Mount Rowe, Cannon-street Hotel, 4.
Albert Mines, 39, Lombard-street.
Weld Hercules, Winchester House.
Lady Loch, Winchester House.
British Exploration, Winchester House, 11.
Northern Wealth of Nations, Winchester House, 12.
Murchison Gold Fields, Winchester House, 12.
Lomatie (Lydenburg) Exploration, Winchester House, 12.
Lily Australis Gold, Winchester House, 2.
Burbank's Birthday Gift, Winchester House, 2.
African Gold Concessions and Development, Win. Ho., 2.
Victor Waihou, Winchester House, 2.
Gold Ore Treatment, Winchester House, 2.30.
Smelting Company of Australia, Winchester House, 2.30.
Doris, Winchester House, 3.
Newland's (West Griquanaland) Diamond, Win. House, 3.
Brownhill Proprietary, Winchester House, 3.

Thursday, December 31.

Great Western Gold, 3, Clement's Lane, 10.30.
English and French Gold Mines, 3, Clement's Lane, 11.
French North Rand, 3, Clement's Lane, 11.30.
Golden Arrow, Winchester House, 12.
Anglo-French (Colonial) Mining Trust, Guildhall Tav., 2.30
Rhodesia Development, Cannon Street Hotel, 11.
First Find Consolidated, Cannon Street Hotel, 12.
Woodbyrne Ayrshire, Cannon Street Hotel, 12.
West Australian Mining, Winchester House, 12.
Great De Kaap (Moodies) Gold Fields, Win. House, 11.
Rhodesia Exploration and Development, Winchester Ho., 12
Gwanda (Rhodesia) Consols Development, Win. Ho., 12.
Appalachian Exploring, Winchester House, 12.
Development and Finance, Winchester House, 12.30.
Town Properties of W.A., Winchester House, 2.
Golden Horseshoe, Winchester House, 2.
Londonderry, Winchester House, 2.
Poorman Gold Mines, Winchester House, 2.
South Swazieland Gold and Exploration, Win. House, 3.
Missouri Mining and Land, Winchester House, 3.
Black Flag Proprietary, Winchester House, 3,
Crœsus South United, Winchester House, 3.30.

Messrs. Abbott and Wickett, Stock and Share Brokers and Mining Share Dealers, Redruth, write under date of December 23:—The market has been dull all the week, but it is to be hoped that the recent improvements in Carn Brea and Dolcoath will result in dealings in the shares early in the New Year at higher prices. Dolcoaths are about 16s. 6d. Now all quotations are nearly nominal, but it is to be hoped that 1897 will be better than 1896, so far as Cornish mining is concerned. Quotations herewith:—Blue Hills 1s. to 2s.; Basset (fully paid), 16s. to 18s.; ditto (5s. paid), 4s. to 5s.; Dolcoath (fully paid), 15s. 6d. to 16s. 6d.; ditto (10s. paid), 5s. to 6s.; East Pool, ⅝ to ¾; Polberro, ¼ to ⅜; West Kitty 2⅛ to 2¼; Wheal Grenville, 3¾ to 4¼; Wheal Kitty, 1s. to 2s.

The Manufacture of Chlorine and Zinc from Blende.—An interesting application of electrolysis has been made by F. M. Lyte, who succeeded in producing chlorine and zinc from the mixed ores of blende and galena. The blende is roasted, and the product lixiviated with dilute sulphuric acid, and the solution of zinc sulphate, after purification, treated with calcium or sodium chloride. After separation of the calcium or sodium sulphate formed, the solution of zinc chloride is evaporated to dryness, and is then subjected to distillation to separate from non-volatile impurities. The zinc chloride is now heated to a temperature slightly above the melting point of zinc, and is then electrolysed, an anode of carbon and a cathode of fused zinc being used. As the zinc accumulates in the cell, it is automatically syphoned off. The chlorine set free is liquified and stored. The residual galena from the treated ore is then worked by the well-known processes for obtaining lead and any precious metals that it may contain.—*Electrical Review.*

Letters of allotment for shares as of right and additional shares in Bayley's United Gold Mines (Limited) have been posted

The Johannesburg [Consolidated] Investment Company (Limited) notify that the transfer books of the New Primrose Gold Mining Company (Limited) and the Glencairn Main Reef Gold Mining Company (Limited) will be closed from January 1 to 11 next, both dates inclusive.

The English and Australian Copper Company (Limited) notify that the half-yearly coupons, due January 1, 1897, on their 6 per cent. debenture bonds, will be paid on and after that date at the London and South-Western Banking Company (Limited), Fenchurch-street, E.C.

VICTORIAN GOLD MINING.

By THOMAS CORNISH, M.A.I.M.E.,
Author of "Our Gold Supply," &c.

In spite of the exodus of so many gold miners and engine drivers from Victoria to South Africa and West Australia, the Victorian gold mines still keep well to the front, the yields of gold steadily increasing, and new and important discoveries are being continuously made which insures a permanent yearly increase of the supply of gold from that colony for many years to come.

As so many attempts are made at booming other places it may be as well to compare Victoria's gold yields with other colonies. Its bulk produce of about £260,000,000 sterling in gold exceeds by twice the amount produced by all the other colonies together.

The production for 1895 of the respective colonies is given by the Mines Department of Queensland as follows:—

Victoria, 740,086 ounces; Queensland, 634,682 ounces; New South Wales, 360,165 ounces; New Zealand, 293,491 ounces; West Australia, 231,513 ounces; Tasmania, 59,964 ounces; or a total of 2,364,244 ounces, value at 80s. per ounce, £9,456,976 sterling. This is independent of rough gold and refractory gold ores shipped to Europe for treatment.

The following table, compiled from the figures of the Melbourne and Sydney Mints, taken together, was recently published by the *Sydney Morning Herald* as showing the yield of gold in the various colonies:—

	Nine months, 1895. Ounces.		Nine months, 1896. Ounces.			
Victoria	526,586	...	580,330	...	increase	53,744
Queensland	352,666	...	343,743	...	decrease	8,923
West Australia	160,949	...	153,498	...	decrease	7,451
New South Wales	142,410	...	129,621	...	decrease	12,789
New Zealand	64,417	...	77,128	...	increase	12,511
Tasmania	37,498	...	47,480	...	increase	9,982
South Australia	34,813	...	21,759	...	decrease	13,054

It will thus be seen that there is a marked and steady increase in Victoria's output of gold for several years past, and as the last quarter of the year is generally the best, there will, in all probability, be nearly 800,000 ounces for the year, or at least a yield of over £3,000,000 sterling. Considering that many of the gold fields have been very seriously denuded of their best miners and many of the experienced mining managers, it looks well that, with all these drawbacks, the output of gold maintains its pride of place, and if justice was done to the vast resources of Victoria the output could be easily doubled.

Victoria is blessed with an enjoyable and equable climate, where there is no drawback to working with ease, comfort, and economy all the year round, good government, sound mining laws, ample supply of water, and timber in all parts of the colony, convenient communication by railways, and good roads to almost every gold field, with stores, machinery, and foundry works of all descriptions, quickly and economically supplied with skilled labour and supervision in abundance for working the mines. Under these circumstances, gold mining in Victoria can be carried on with more economy and greater profits than in any other country I know of. It may be fairly estimated that out of the immense production of £260,000,000 sterling in gold from the fields, only as yet partially developed, at least one-third of the amount, or (say) from £80,000,000 to £90,000,000 sterling, has been paid in dividends or profits in working the Victorian mines.

The rich portions of the shallow workings have, of course, been mostly worked over, but there are scores, and I may say hundreds, of miles of deep alluvial leads or the ancient river beds yet to work, besides thousands of discovered and proved payable quartz reefs traversing the various belts of Silurian formation throughout the colony.

Many of these quartz reefs have been worked by companies or private parties for the past 30 to 40 years with no sign of exhaustion, not even when worked down to from 1000 feet to 3000 feet in depth, while many mines have been working for the last 30 years and only got down to a few hundred feet in depth.

During the past 30 years there is recorded in the Mining Department the results of mining and milling 30,000,000 tons of quartz, or an average of about 1,000,000 tons per year, yielding over 15,000,000 ounces of gold, averaging ½ ounce of gold per ton, value (say) over £60,000,000 sterling, and of which nearly one-half may be estimated as profit, as in most districts quartz can be mined and milled at £1 per ton and less; in fact, in some districts ore averaging only 10s. to 12s. 6d. per ton can be worked at a profit. Quartz mining in Victoria is, therefore, reduced to almost a dead certainty of being a highly profitable undertaking if anything like ordinary judgment or capacity is exercised in the selection of the mine and skill and economy used in the management.

There is a greater certainty of a higher ratio of profits being returned for capital judiciously invested in legitimate gold mining than in any other form of industry, and in Victoria this is probably more applicable than any other place in the world. Gold mines may be in work in cold climates, where only six months in the year is available for work, or in hot and unhealthy climates, where fever rages, or under uncivilised forms of governments, where life and property are not always safe or free from being assailed, but in Victoria everything is available that tends to make life agreeable, and gold mining a pleasant and profitable occupation when conducted on sound business lines.

The old gold fields are entering on a new lease of prosperity, such as Ballarat, Bendigo, Stawell, and others, while many of those fields that were abandoned and much neglected during the sixties are now being reprospected with good results, while new and rich discoveries are being made in the mountainous ranges of Gippsland through the assistance given by the Mining Department in cutting new tracks through the dense forest and undergrowth, which in many places is as dense as a West African (Gold Coast) forest—the great difference being, one very healthy and the other unhealthy.

A romantic discovery was lately made at the Monarch Mine in the Australian Alps, about midway between Harrietville and Mount Hotham, which is the highest peak of sedimentary rock in Victoria. Magnificent scenery surrounds the mountain crowned by the Monarch Mine, including all the highest mountain ranges in that portion of Gippsland.

The discovery, as is often the case, was by accident, some workman getting machinery up the mountain to lower down the other side into a deep gully, where was being fixed crushing machinery for the Crescent Mine. They cut a trench for the dray wheels, and in doing so struck a quartz lode showing gold. They kept the information to themselves until they had secured their title, and then sold out to the representatives of an English syndicate, who have evidently secured a good thing. The stone taken out in sinking a small shaft has more than paid for the mine already; 3 cwts. of picked stone yielded 96 ounces of gold, while 20 tons crushed yielded 385 ounces of gold, worth 81s. 6d. per ounce. Magnificent specimens are being obtained. It is no mere patch, as the lode is proved 12 feet wide. The mine is opening out well under the superintendence of Mr. Davey, and this and other rich discoveries of late in this locality are attracting much attention from miners and local investors. Thus new and important gold fields are being developed rapidly in Gippsland, as also in other parts of the colony.

The Gippsland Mines have maintained a high average of over 1 ounce of gold per ton of ore crushed, and with such splendid records as that from the Long Tunnel and Long Tunnel Extended Mines, where the lodes are proved to 1500 feet and 1600 feet in depth, the permanency of the lodes in this extensive auriferous belt is well assured.

The excellent record of the Long Tunnel Mine shows that there has been quartz mined and crushed, 436,579 tons, yielding 602,981 ounces of gold, value £2,105,495. Dividends paid, £1,131,000. Various other mines in the district are opening most favourably.

The North Long Tunnel, South Long Tunnel, Landy's Dream group, and Toombon on East Long Tunnel are all likely to develop into good mines, while the Mount Hepburn Mine is also opening up immense bodies of highly payable ore and a 60 stamp mill is now in course of erection.

An immense area of auriferous country up to Omeo and Mount Delegate, on the border of New South Wales, is being prospected with good results in various places, which will develop a vast field in this part of Victoria for profitable gol dmining.

SIDE LIGHTS ON THE LAW:

Legal Jottings on Cases in the Courts, and on Questions affecting Mining, Railway, Financial, Industrial, and allied Interests.

BY A BARRISTER.

THE case of Hobson against Gorringe, decided in the Court of Appeal, suggests there is something unfortuitous about the plaintiff's name. The plaintiff, Mr. Hobson, had by a hire and purchase agreement delivered to a Mr. King an engine which was affixed to the latter's land by means of bolts and screws, and so became a fixture. By the agreement the engine was to be paid for by monthly payments, and was to remain the property of Mr. Hobson until the final payment by King, and, in the event of any default in payment, Hobson was to be entitled to enter upon King's land and retake possession.

IN these circumstances a reverend gentleman, to whom King had previously mortgaged his land, lawfully entered upon and took possession of King's land for non-payment of the principal and interest due to him under his mortgage, and the question arose as to whom the engine belonged. It had become a fixture, and, therefore, part of the soil. The soil belonged to the reverend gentleman.

MR. HOBSON wished to take the engine; but against his choice he had to leave it, for, although under his agreement with King he had a right to move it from King's land, it gave him no right to remove it from somebody else's or King's grantee, and the reverend gentleman had become a *bona fide* purchaser for value without any notice of Hobson's right under his contract.

THE case of "Lane *versus* Fox" will, doubtless, afford seasonable reflection for the Christian Socialist, not that I pretend to any distinct appreciation of his tenets. To me the judgment of the Master of the Rolls suggested the question, Has the nineteenth century landlord any neighbour? and, if not, may he not before the end of the century find himself without friends? The plaintiff was employed by the weekly tenant of a newly-built cottage to remove his furniture. In carrying a bedstead downstairs the jerry-built staircase gave way, and so the plaintiff was injured. The Lord Chief Justice non-suited the plaintiff on the ground that the landlord owed no duty to the plaintiff not to lay a trap for him. The plaintiff, whose ideas are apparently perverse in legal view, was dissatisfied, and went to the Court of Appeal, where the Master of the Rolls enlightened mankind as to who is his neighbour and as to his legal duty towards him.

FIRST, of course, it should be observed that the groundwork or basis of the claim by the plaintiff was that the landlord had been guilty of negligence, which caused the accident. Now, it is a principle of law that there can be no negligence unless the person who is alleged to be negligent has some relation or duty towards the person who suffers from his neglect. The duty or relation, the Master of the Rolls pointed out, might arise from the position of the parties to each other. If, for instance, "a person was on the highway, he would have a duty towards another person who was near him on the highway. That proximity imposed on each to take reasonable care not to interfere with the other. So, also, if a person had a house near a highway, that imposed a duty upon him towards persons using the highway, and if by the negligent management of his house he caused injury to persons on the highway, he was liable." This, it would seem, according to the Master of the Rolls and the other Lords Justices of the Court of Appeal, practically exhausts the nineteenth century definition of "Who is my neighbour?" His lordship proceeded:—"In the present case the alleged negligence consisted in letting the house in an unsafe condition. Apart from contract, there is no such duty imposed on the landlord towards the tenant. There is no duty upon a person not to let an unfurnished house in a rotten condition. Any such duty must depend upon express contract. It was, therefore, but a short step from that to say that if a landlord owed no duty to the tenant he owed no duty to strangers. Therefore, there was no duty on the part of this defendant towards this plaintiff, and there could be no negligence, and the nonsuit was right."

Now, admitting for the sake of agreement that it is right that a person, by entering into a contractual relation as the tenant of another should become the legitimate prey of his landlord, I fail to see why those of us who have not committed this indiscretion, and have not sold our birthright by entering into any such contract, should also be "fair game" for the landlord's snares. Still, until the legislature interferes, I suppose I shall be bound to bow to this decision unless—and it seems a forlorn hope—it is reversed by the House of Lords.

THE DEVELOPMENT OF BRITISH COLUMBIA.—A Reuter's telegram, dated Winnipeg, Dec. 21 states:—An announcement has been received here from Ottawa, indicating the formation of a syndicate of British capitalists to construct a railway from the north-west territories through Crow's Nest Pass into the mining country of British Columbia. Aid will be asked from Parliament during the coming Session.

THE COLLIERY DISASTER IN HUNGARY.—A Reuter's telegram, dated Buda Pesth, December 22, states:—The following are precise corrected figures concerning the Reschitza colliery disaster:—128 men were in the pit, 34 escaped safe and well, 34 were killed, 12 were seriously and 12 slighty injured; and 36 are missing.

ALASKA TREADWELL, ALASKA MEXICAN, AND ALASKA UNITED.—Captain Thomas Mein (formerly manager of the Robinson Gold Mine, S.A.R.) has joined the boards of these companies, to which he will be able to devote his personal attention, being now resident in San Francisco.

We are informed by the directors of the ANGLO-FRENCH EXPLORATION COMPANY (LIMITED) that they have authorised the payment of the dividend on the Six per Cent. Preference shares up to December 31.

LATEST FROM THE MINES.

The Secretaries of their respective Companies have sent us the following Cables and Telegrams for publication:—

BON ACCORD, W.A. (No Liability).—The manager at the mines cabled to the head office at Melbourne, under date November 3, as follows:—"Struck good gold in No. 1 underlay 67 feet deep; stone all across bottom of shaft; some stone very good."

BRILLIANT GOLD.—A cablegram received from this company's head office at Charters Towers states:—"A dividend of 4d. per share has been declared."—Note. This dividend will be paid in London on January 5 next to all shareholders on the London Register on the 22nd inst.

BROKEN HILL JUNCTION NORTH.—Cable intimation from Melbourne states that a monthly dividend of 6d. per share has been declared, and is payable on the 13th prox.

BROKEN HILL PROPRIETARY.—Cable from Melbourne states the price of the shares there as £2 9s. buyers.

DARIEN.—The directors of the Darien Gold Mining Company (Limited) have received the following cablegram from the mine:—"Crushed 370 tons, obtained 425 ounces of gold. Shaft closed part of month; starting new drift."

EAST MURCHISON UNITED.—Crushed 618 tons, obtained 1146 ounces of gold.

GALENA MINES.—Mr. Callahan cables that the new lode in the main shaft has been proved to be 10 feet wide. The assays give a result of 52 ounces silver and 52 per cent. lead per ton of 2000 lbs., equal to a cash value of about £12 10s.

GREAT BOULDER PROPRIETARY.—Crushing returns for the fortnight ending December 21:—712 tons of ore crushed yielded 2147 ounces of gold.

GOLCONDA.—The following cablegram has been received from the manager, dated from Lake Austin, Western Australia, December 23:—"We have cleaned up, after a run of 376 hours, 455 tons, which yielded 184 ounces. An average sample of the tailings assayed 4½ dwts. per ton."

HANNAN'S LODE.—Cablegram from the company's managers, Messrs. C. J. McCulloch and Co., Coolgardie:—"The present depth of the shaft is 115 feet. The lode is well defined. Large body of ore, but low grade. Shall recommence sinking. Do not expect to find any ore until we have sunk an additional 100 feet, or at the water level may cut ore at any day better class than hitherto."

HERBERT GOLD.—The managing director cables that water has been struck at a depth of 167 feet.

IMPERIAL WESTERN AUSTRALIAN CORPORATION (Western Shaw Mines).—Telegram received, dated December 21, announces a further crushing of 40 tons for 160 ounces of retorted gold.

MOUNT LYELL.—The following cable dated the 22nd inst. has been received by this company's London office from its head office at Melbourne:—"During the four weeks ending December 17 a total quantity of 6415 tons of ore has been treated. Furnaces No. 1 and 2 assaying copper 5·55 per cent., silver 2·95 ounces, gold 0·227 ounce per ton, resulting in the production of 498 tons of converted matte, containing silver 15,059 ounces, copper 260 tons, gold 1106 ounces."

NEW GUADALCAZAR QUICKSILVER.—A cablegram has been received from the mines, stating that the production of quicksilver for the past two weeks amounts to 2650 lbs., equal, to 35½ flasks.

NEW OPTIONS.—Cablegram dated December 21, from Mr. T. G. Davey:—"Have cleaned up Monarch 23 tons, 295 ounces, not inclusive of gold in concentrates."

NEW QUEEN.—The following cablegram has been received:—"Have drawn on you for £400."

NORTH STAR GOLD MINES (LIMITED).—Cable from the manager in Western Australia, dated Niagara, December 19:—"Commenced crushing yesterday."

QUEENSLAND BLACK SNAKE.—The manager in Western Australia cables from Kalgoorlie under date, the 19th inst.: "The present depth of the shaft is 70 feet; mine promises exceedingly well for the future."

QUEENSLAND MENZIES.—The London agents, R. Clayton and Co., 88, Bishopsgate-street Within, E.C., have received the following cablegram, dated December 17, from the head office, Brisbane:—"Company's own mill started crushing November 30; intend crushing 400 tons. Anticipated yield 8 ounces per ton."

SOMONDOCO.—Cablegram from the superintendent states that hydraulicing has been commenced.

VICTORIA REEF GOLD.—Manager cables:—"New find. Have commenced winze. At a depth of 53 feet gold goes down. Is looking well."

WAIHI SILVERTON EXTENDED.—The following cable is to hand from mine superintendent, Mr. A. P. Griffiths:—"Crosscut is in 30 feet; we have 10 heads of stamps running; the ore averages in value 38s. per ton; mill engine will be ready by January 1 certain; mine and mill will be shut down for 12 days on account of holidays; will not stop crosscut; Moore (new mine manager) will take charge January 1."

WESTERN AUSTRALIAN DEVELOPMENT.—The following cablegram has been received from Mr. E. A. Lloyd, the assistant manager:—"Oritava. The dip of the lode continues same direction. Have driven south further 22 feet. Rock shows visible gold."

WESTERN AUSTRALIAN DEVELOPMENT CORPORATION.—The following cablegram is to hand:—"Dorothy. Water struck on adjoining property at 167 feet."

WAITEKAURI GOLD.—The bullion return for the five weeks ending December 12 is £5119 from 1707 tons. The falling off in the water supply, owing to the sudden advent of the dry weather, has consderably affected the returns. It is expected that the new engine sent out to supplement the water power will be started on the 25th of this month.

WOLHUTER.—Cable received from head office:—"Profit for November, £5462. The following refers to the Deep Levels:—Have struck ore main reef series deep level shaft, 882 feet. Further information will follow by mail."

YALGOO PUBLIC BATTERY.—The following cables have been received from the company's agents, Messrs. F. W. Prel and Co.:—"Drift from shaft. Incline shaft at the water level lode is getting wider. Width of reef, 5 feet 6 inches wide. Pannings give good results. Water increasing. Expect to start milling on or about the last week in January."

YALGOO PROPRIETARY.—The following cablegram has been received from the managing director who is now at Yalgoo:—"Have discovered a good body of ore at 60 feet level. Deep shaft contains visible gold."

THIS week's number of the *African Critic* is very entertaining. A special supplement is issued in the form of a rhymed extravaganza in four parts, entitled "Oom Paul in London," accompanied by a coloured cartoon, "A Good Joke," from Mr. Labouchere's point of view. It makes most suitable humorous reading for Christmas time.

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TWENTY-FOURTH ANNUAL DINNER
OF THE
OLD STUDENTS
OF THE
ROYAL SCHOOL OF MINES.
ARRANGEMENTS have been made to hold this DINNER at 7 o'clock on TUESDAY, January 26th, 1897, at the CRITERION RESTAURANT. The Chair will be taken by T. K. ROSE, Esq., D.Sc., Assoc.R.S.M., of the Royal Mint. Tickets, 7s. 6d. each, may be obtained from the Hon. Sec., to whom P.O.O. should be made payable.
H. G. GRAVES,
Hon. Sec. Dinner Committee.
5, Robert Street, Adelphi, W.C.

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NOTICE IS HEREBY GIVEN, that the Transfer Books of the above Company will be CLOSED from the 1st to the 11th January, 1897, both dates inclusive, for the purpose of balancing the Share Ledgers.
By Order,
The Johannesburg Consolidated Investment Company (Limited).
London Agents,
THOS. HONEY, London Secretary.
7, Lothbury, E.C., 22nd December, 1896.

THE NEW PRIMROSE GOLD MINING COMPANY (LIMITED).
NOTICE IS HEREBY GIVEN, that the Transfer Books of the above Company will be CLOSED from the 1st to the 11th January, 1897, both dates inclusive, for the purpose of balancing the Share Ledgers.
By Order,
The Johannesburg Consolidated Investment Company (Limited).
London Agents,
THOS. HONEY, London Secretary.
7, Lothbury, E.C., 22nd December, 1896.

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Prospectus and Forms of Application may be obtained by Shareholders at the Company's offices (in London, 8, Old Jewry, E.C., and in Paris, 1, Place Boieldieu). Holders of bearer shares must deposit their warrants at the Company's offices to enable them to participate in the subscription.
By Order of the Board,
CHARLES SHEAD, Secretary.
Dated this 23rd day of December, 1896.

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PUBLICATIONS RECEIVED.

"The Indian and Eastern Engineer Diary." 1897.
"The Outlook." An Illustrated Monthly Magazine. (New York: The Outlook Company, 13, Astor Place.)
"Niesedalens Jernmalmforekomst." Af. J. H. L. Vogt. (Christiania: H. Aschehoug and Co.)
"Mittheilungen über das Verhalten Hydraulischer Bindemittel in Seewasser und in Süsswasser." Von Gerhard Herfeldt in Andernach A. Rhein. 1896.
"Register of the Associates and Old Students of the Royal College of Chemistry, the Royal School of Mines, and the Royal College of Science; with Historical Introduction and Biographical Notices and Portraits of Past and Present Professors." By Theodore G. Chambers, Assoc.R.S.M. 7s. 6d. net. (London: Hazell, Watson, and Viney (Limited), 1, Creed Lane, Ludgate Hill.)
"A Treatise on Ore Deposits." By J. Arthur Phillips, F.R.S. &c. Second Edition, rewritton and greatly enlarged by Henry Louis, M.A., A.R.S.M. &c. With numerous illustrations. (London: Macmillan and Company, Limited. 1896.)
"The New Review." Edited by W. E. Henley. (London: William Heinemann, Bedford-street, W.C.)
"The Photogram." A Journal for Photographers. Price 3d.

SOUTH AFRICAN GOLD EXPORT.—A Reuter's telegram from Capetown, dated Dec. 23, states that the Castle Line steamer, *Dunottar Castle* takes to-day to Europe gold of the value of £133,841.

RAIN ON THE RAND.—A Reuter's telegram, dated Johannesburg, Dec. 21 states:—The rains have been very heavy during the past week, and the mine dams are now full of water.

The coupon of the 4½ per cent. first debentures of the BERGVIK COMPANY (LIMITED) for the half-year's interest falling due on January 1 next, together with the bonds drawn for redemption, will be paid on and after that date at Messrs. Roberts, Lubbock, and Co., 15, Lombard street, E.C., or at Messrs. Cox and Co., Charing Cross, S.W.

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. ADVERTISEMENTS (which should in all cases be sent direct to THE BUSINESS MANAGER) can now be received for the forthcoming issue of THE MINING JOURNAL, RAILWAY AND COMMERCIAL GAZETTE, on FRIDAY, at 18, FINCH LANE, E.C., up till 8 p.m., and at 3, DORSET BUILDINGS, SALISBURY SQUARE, E.C., until 9 p.m.
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LONDON: DECEMBER 26, 1896.

THE BERTRAND-THIEL PROCESS.

WHEN so eminent an authority as Mr. PERCY C. GILCHRIST stamps a new steel-making process with the seal of his approbation, there can be little doubt but that the process so distinguished deserves the careful consideration of all engaged in the manufacture of steel. The production of steel from phosphoric materials has been almost entirely neglected in this country, although the process was discovered and brought to a high degree of technical perfection here, for the simple reason that our extensive seaboard enables us readily and cheaply to import the pure non-phosphoric iron ores of Spain and other countries, and thus renders us independent of the indigenous phosphoric ores as well as if the non-phosphoric ores which we possess in some parts only of the country. On the Continent, on the other hand, and especially on the central coal fields, pure iron ores can only be imported from foreign countries at prohibitive prices, and hence Continental steel makers have been absolutely forced to study closely the basic process for making steel from phosphoric iron ores, and have brought it to a high stage of development. The basic lining that Messrs. GILCHRIST and THOMAS first applied to the Bessemer converter, to enable steel to be made from phosphoric pig iron, has since been extended to the Siemen's furnace, so that

open-hearth basic steel is as readily produced as basic Bessemer or Thomas' steel, as it is generally called in Germany.

The Bertrand-Thiel process, to which Mr. GILCHRIST is now drawing attention, is a recent modification of the basic open-hearth process of steel making that has been introduced by Messrs. BERTRAND and THIEL, of the Prague Steel Works, at Kladno, in Bohemia. The inventors claim that they can greatly shorten the time of the operation, so as to get a larger output from a given number of furnaces, that they can get a larger output from the same amount of raw material, and can obtain a product of desired composition with greater certainty and regularity, whilst using even an inferior quality of raw material. Mr. GILCHRIST appears to support most, if not all, of these contentions, which, it will readily be seen, constitute an advance in the technology of steel making of the highest economic importance.

The process consists essentially of dividing the ordinary basic open-hearth process into two stages, and performing each half in separate furnaces, called respectively the primary and the finishing furnace. Mr. GILCHRIST advocates making three series—the primary, secondary, and finishing furnaces, although the process seems so far to have been carried on only in the two-fold series; he also points out that the operation is not evenly divided between the two series, and that there ought to be two or three primary furnaces to one finishing furnace. Practically, all the pig iron and very little scrap is charged into the primary furnace, in which an intense temperature is attained, sufficient, according to Mr. GILCHRIST, to volatilise iron. The charge is melted with the addition of lime and iron ore, and is worked for about three hours. At the end of this time the molten metal is run into the second furnace, in which the scrap has meanwhile been melted with, perhaps, a little pig iron, and any ore and lime that may be required, none of the slag being allowed to pass from the first furnace to the second. After further heating in the second furnace for from half an hour to an hour, the charge is generally ready for the addition of the requisite amount of spiegeleisen or ferro-manganese, and for tapping. In the first furnace practically all the silicon, and a good deal of the carbon, phosphorus, and sulphur are removed, the elimination of these metalloids to any desired extent being completed in the second furnace.

This, then, is the process that Mr. GILCHRIST illustrates, by describing in detail, by the aid of very complete tables of analyses, the progress of four charges that he followed very closely at Kladno. Thus, in the first charge recorded, 57·5 of scrap and 42·5 per cent. of pig iron were used, together with a little over 1 ton of Gellivara iron ore. The charge remained in the first furnace nearly four hours, and in the second about one hour. The original charge in the first furnace contained:—

	Per cent.
Carbon	2·360
Silicon	0·812
Sulphur	0·037
Phosphorus	1·709
Manganese	0·358

When tapped, the metal had the following composition:—

	Per cent.
Carbon	1·080
Silicon	trace
Sulphur	0·071
Phosphorus	0·991
Manganese	0·086

After this metal had been mixed with the charge in No. 2 furnace, the composition of the bath was:—

	Per cent.
Carbon	0 72
Silicon	trace
Sulphur	0·056
Phosphorus	0·626
Manganese	0·219

After only ten minutes in the secondary furnace, the charge could have already been tapped, and would even then have given steel of fairly good quality, the composition of the bath being:—

	Per cent.
Carbon	3 26
Silicon	trace
Sulphur	0·066
Phosphorus	0·028
Manganese	0·115

These results cannot be looked upon as otherwise than satisfactory, and they appear to be corroborated by those obtained in the three other charges. We must confess that we should feel much better satisfied if there were not in so many of the analyses such alarming discrepancies between the duplicate analyses made in this country and those made at Kladno. When, for instance, we find one analyst returning phosphorus at 1·742 per cent. (page 8), whilst the other makes it 0·608 per cent., we must admit that not even the careful work implied in the third decimal place can inspire us with anything approaching to faith in the figures, and we begin to wonder whether the analysts would not have done better to have confined themselves to guessing, and to leave chemistry alone. There are repeated instances where one chemist has found two, three, or four, even five times as much of an element as his brother analyst. For instance, manganese is a very easy element to determine with moderate accuracy, yet we find (page 9) that the English chemist has found 0·115 per cent., whilst the Kladno analysis only gives 0·027. Mr. GILCHRIST makes no remarks on these very startling discrepancies, and it seems strange that when his whole paper is based on tables of analyses, he should not give an explanation of apparent inaccuracies that would seem, whilst unexplained, to deprive these tables of any authoritative value whatever.

Nor do we quite see on what grounds Mr. GILCHRIST justifies his assertion that "100 of pig will produce more than 100 of steel," unless he excludes the scrap from his calculation, because if we understand his table on page 24 at all, it would seem to indicate that the amount of pure iron in the steel produced was always less than the pure iron charged in the pig and scrap by between 3 and 18 cwts. on charges of 15 to 19 tons. Nevertheless, we have the greatest confidence in Mr. GILCHRIST's knowledge of steel making, and are quite willing to take his high opinion of the Bertrand-Thiel process for granted, and to admit that whenever his results seem hopelessly unintelligible, the fault lies with us and not with his paper. At the same time we cannot help wishing that he had written it, and had tabulated his results in such a manner as to make quite clear the ground upon which he bases his eulogies of the process, even to our limited comprehensions.

A WORTHLESS PROPERTY.

IT is not a very pleasant pastime dwelling upon the short and inglorious career of the St. Denis Gold Mine, for the only benefit which it is likely to confer upon the disappointed shareholders is to teach them a wise and useful lesson. The company made its appearance in a gay and flaunting dress, and at once attracted the attentions of the superficial and bewildered investor. According to the reports of the experts who examined the property, it was going to turn out a wonderfully rich mine, and all the miners apparently had to do was to shovel the rich nuggets out as fast as their strength would permit them. For instance, Mr. ZEBINA LANE, a name not unfamiliar to our readers, said, in referring to lease 1462, where he suggested the main shaft should be sunk:—"From the shaft payable ore could be at once raised and sent to the mill," and also "I have no hesitation in saying you have a property that, judiciously handled, and economically worked, will pay handsomely." Then Mr. FEARBY, referring to the same lease, said:—"From this place I took samples of stone right across the reef and crushed them; they gave from 3 ounces to 4 ounces of free gold per ton of stone. Five assays from these parts gave 6 ounces up to 89 ounces per ton of stone." And so on. Other experts wrote reports equally as favourable, and yet in the space of 12 months it has been condemned as absolutely worthless, and not meriting the expenditure of another farthing. Mr. GIFFORD is the expert who pronounces this opinion upon it, and his verdict has been endorsed by another expert in the person of Mr. BARNIE. Nothing could be more condemnatory than their reports, for, in conclusion, Mr. GIFFORD says:—"Nothing could be more discouraging than the prospects here. Some twenty-four shafts have been sunk with a total depth of over 800 feet, having drivages from them of more than 500 feet. Costeanings, too, have extended to a length of over 3000 feet, and although many of these works have opened up reef-like bodies of quartz and other metalliferous rock, all have been found to be sterile, irregular, and without continuity in length or extension in depth. I see, therefore, no alternative but to advise you to abandon the property as quickly as circumstances will permit, there being no point left to warrant spending any more money upon." Whilst Mr. BARNIE says:—"There is absolutely nothing of a favourable character in any of the leases, nor did I see any evidence of there ever having been, and I consider the money spent on it as utterly wasted; therefore, I should advise abandonment." We do not think the directors are greatly to blame in this, for they formed their opinion upon the same evidence upon which the shareholders formed theirs. Indeed, we think they are to be commended—considering the degraded state of the company moral code in these days—for obtaining the independent opinion of so eminent an expert as Mr. GIFFORD, and for acting promptly upon it. There have been numerous cases in which directors have suppressed the opinions of trustworthy experts, whom they have called in for advice, have fraudently deceived the shareholders, and have knowingly squandered their money upon a worthless property. The vendors also appear to have acted in good faith. But what is to be said of the experts who so enthusiastically recommended the property?

THE NEW YEAR AND THE NEW CENTURY.

As usual, the closing weeks of the year have been marked by the customary congestion of business. Meetings that, for legal or other reasons, must be held within the year of grace, 1896, have come in a rush during the past fortnight, and the City man's diary has been covered with entries, interlacing each other like web and woof in an Irish poplin. The present position of affairs in the circles more especially concerned with mining in its financial aspect is closely akin to that of Christmas in 1895 and the year preceding. This December has not, however, been without its distinctive and special features which serve to mark it out from earlier periods. There is, for instance, a touch of unaccustomed eagerness in the feelings with which the coming year is generally awaited. Unlike the *philosophe sous les toits*, the industrial leaders are disposed to greet with outstretched hand the dawning of a new span of re-invigorated commercial movement, rather than to congratulate themselves upon the march of recent events. It must be confessed that the rise in prices which was to have taken the roof off the Stock Exchange has not yet become history, and even that the low barometric state of the mining market has now continued for an undue length of time; but the regularity with which reaction follows closely upon the heels of a brisk mining revival foreshadowed clearly enough—for those who had the wit to see—that the future would bring its inevitable spell of slower movement and caution bordering upon obstinacy. Now, however, the case stands upon a different footing. There is no ground for fearing that over-heated speculation during the past year has laid up its resultant depression against the immediate future. It cannot be said that 1896 has left to its successor any heavy debt of after reaction for settlement. The sobriety, almost to the point of tameness, which has been the ruling characteristic of the year that will soon be spoken of in the past tense, leaves a sounder and healthier tone behind it, which will, unless we greatly mistake the present indications, secure for mining and industry a favourable though more moderately toned spell of work in the first months of the coming year. It is impossible to forget at this particular moment that we are drawing nigh, not only to a new year of work and expectations, but also to the breaking of a new century. Arbitrary as is the time-division thus expressed, the association of a new period with novel departures in every direction—intellectual, moral, and physical—is so prominent in the mind that we can hardly do other than wait, so to speak, with bated breath, for the manifestation of a new spirit in a new age. It seems, indeed, generally to be agreed that we are now at the closing point of an age. The phrase *fin de siècle* carries in itself a disquisition in little upon this point. There is, then, every inducement to look with keen expectancy towards the dawning of a—presumably—new era, and the question of what the new year, 1897, will bring are merged is the larger consideration of what will come up with the new century in the commercial world.

MINING IN MADAGASCAR.

MADAGASCAR has so recently passed out of the throes of war, and is so likely to relapse, for a time at least, into a state of partial turmoil, that it would be unjust to expect too much from the mineral developments in the island. Something considerable has, however, already been done in the way of putting the industrial organisation of the country upon a sound legal footing, and an elaborate code of mining laws has, under French inspiration, been promulgated from the picturesque but inconveniently named capital. So far as a cursory examination can reveal their character, they appear to have been wisely drawn up, but everything will naturally depend upon the spirit in which they are administered. In this connection it must be admitted that present indications are not, from the English point of view, particularly hopeful. The whirlwind of Parisian indignation which flew round the head of an unfortunate official who was suspected of having exhibited an undue leniency in regard to British interests will, it is natural to suppose, become a fairly authoritative precedent for those who are in future to have the conduct of industrial affairs. The French may be excused for desiring to keep at least one gold field to themselves, and it will be contrary to our expectation if the English betray any avid desire to rush into so new and untried a field of industrial enterprise. With reference to the actual, or potential, value of the island as a gold field there may at present be several widely differing opinions. So far, all the available data are simply the results of short tours in the island, and the scrappy observation which experts have been able to make under circumstances of considerable difficulty. One specialist, while regretting his inability to make a detailed and prolonged investigation, records his conviction that "some of these reefs will turn out payable when prospected properly." The number of reefs visible in various parts of the island appears to be exceptionally large, while the natives are credited with the ability to earn even as much as 1 ounce of gold per diem by a method of working necessarily primitive to the last degree. Whether the authority in question is too much disposed to argue from a particular instance to a generalisation it would be difficult to say, but in any case Madagascar is not likely to sustain any serious competition with the other gold fields, most of which are certainly worked under British initiative. To many Englishmen, who habitually regard foreign affairs from a liberal standpoint, it would be a pleasurable experience to see a really successful gold mining colony worked from Paris. The French are not remarkable as a brilliant colonising nation. It has been said of them that the attractive influence of the Boulevards prevents them from travelling in an industrial or commercial interest to different parts of the globe—or at least, that if they ever make the journey they are invariably in a great hurry to get back again. In that the British race have certainly an advantage, for they do not appear to regard a prolonged absence from Piccadilly or Regent-street with the same half pathetic abhorrence as a Frenchman would regard banishment from his beloved Boulevards. English industrialists will watch each step in the development of the new sphere of activity with an interest which has nothing of jealousy in it, and will heartily congratulate the Gauls, many of whom are fellow shareholders with them in other enterprises, upon having added to the list of the world's gold fields.

SOME PROMISING COMPANIES.

THE shareholders in the New Options (Limited) are to be congratulated. There is every evidence that they are in possession of a highly promising mine, which, under an energetic and capable board, a skilful manager, and eminent engineers, should turn out to be one of the best properties in the world. It is situated in Victoria, a colony which is rapidly coming to the front, and whose claims to attention cannot much longer be ignored. As a rule, at statutory meetings, very little is said to enable one to form a good idea of the prospects of a mine, but the New Options is an exception. Mr. EDGAR TAYLOR—of the famous firm of Messrs. JOHN TAYLOR and Co.—was able to place before the meeting statements of a most encouraging and gratifying character, which, in the words of Mr. JEPPS, put the shareholders in a very good temper, and sent them away rejoicing. In this connection we would like to draw our readers' attention to this week's letter from our Victorian correspondent. He has commenced a series of articles upon the famous Bendigo gold field, which will continue for some weeks to come, and is discussing the vital question of mine capitalisation. These articles will be of great value to investors, who are likely to gain great benefit from a study of them. This week meetings of the Van Ryn Gold Mines Estates, Van Ryn West, and Van Ryn North were held, at

which encouraging speeches were delivered by the respective Presidents. In spite of the great difficulties and troubles which have retarded the progress of most of the South African Companies, the Van Ryn Gold Estates has had a very successful year. A dividend of 20 per cent. has been distributed, and though there is sufficient in hand to pay another, the directors are wisely keeping it in reserve. During the period under review, the Kurnalpi Gold Mining Company has experienced an extraordinary number of difficulties, but which now, fortunately, appear to be overcome. Crushing may be expected shortly, and until the results of it are made known, it would be imprudent to show enthusiasm over the company's future. There is every appearance, however, that the mine is a promising one.

A WARNING TO INTENDING EMIGRANTS TO BRITISH COLUMBIA.

A COLONIAL writer has given a timely warning through the columns of the London *Times* to emigrants intending to make for British Columbia. The first purpose of the communication is to counteract the effects of some apparently ill-considered advice tendered by the Government Labour Department, in which labourers were advised to make for the Trail Creek gold district. The particular communication referred to has not, so far, come under our notice, but its purport appears to have been to advise the working miners, provided they have each £25 in pocket, to strike tents at once for the west. Mr. NICOLAI SCHON, the correspondent of the *Times* in question, roundly describes the advice as "cruelly misleading," and goes on to characterise it as "most improper to advise ordinary British workers to make for the Trail Creek gold district of British Columbia in autumn, and especially during an almost initial working season like the present, provided only—as suggested—such a worker have £25 in hand in setting out." These assertions are, it must be admitted, followed up by a cogent marshalling of the main points as seen from the colonial vantage ground, which suggest that working men in search of employment run a certain not inconsiderable amount of risk by hastily moving into a new and untried sphere of labour. From the letter in question, which it is clear, has been written by one well acquainted with the locality and the peculiar industrial and economical conditions which obtain there, it might almost be said periodically, it would appear that the labour market is at present somewhat over-stocked in Columbia, and that a pronounced change for the better cannot reasonably be anticipated until the early months of next summer. Those acquainted only with the winters of England must necessarily be unaware of the rigours which invariably accompany the same season of the year in North America, and which, not infrequently, interfere with and even arrest the ordinary course of industrial activity. With the thermometer several degrees below zero, their pockets at a low ebb—for the journey over the Atlantic and on to Rossland will in the majority of cases go far to empty the purse—and the haziest possible knowledge concerning their new sphere of work, these too confiding emigrants, befooled by the attractive invitations of a too optimistic Government office, will find themselves in a sorry plight indeed. The tendency towards emigration is an impulse which more than most others requires a careful and far-sighted control. That enchantment which distance generally lends to the view has been responsible for widespread disappointment. The miner who may pass over the Atlantic, perhaps, in the belief that a promised land of plentiful work and high wages lies at the other end of his journey, will, if Mr. SCHON is rightly informed, in the present instance, be seriously disillusioned to find a large population, abundant competition for work, and a sort of lull in what promises to be one of the most important of the world's centres of mining activity. The matter is one that requires ventilation, and the preventive effects of Mr. SCHON's letter may be highly valuable.

JAPONICA AD NAUSEAM.

THERE is some danger of our shortly becoming unable to move for the mass of literature devoted to Japanese subjects that is falling about our ears. When approached from the higher point of view, the subject is attractive and fascinating beyond easy description: from the poetical appreciations of Sir EDWIN ARNOLD down to the laughable, but somewhat acrid, outpourings of M. Pierre Loti's eccentric genius, we could not well wish a volume removed from the bulky library of Japanese criticisms and folk-lore within the compass of modern reading; but the insufferable dulness and unwearying importunity of the writers on the late revival in Japanese commerce are getting to be an unspeakable affliction. If there were anything new to tell us we should have no good reason to complain, although the flatness of the drowsy rhetoric by which the matter is conveyed might move us to occasional rebellion; but there is nothing either attractive or informing about the constant grinding out upon the journalistic barrel organ of the same dolorous plaints that we are being cut out of the Japanese markets by the native manufacturers, that a great industrial revival has followed the war in the far East, and that the Japanese workman has a skill in counterfeiting European workmanship which is almost uncanny. There is, moreover, about a good many of these copious poetical effusions a sort of pathetic ring, as if the British merchant had some heaven-sent mission to disport himself uninterruptedly in the markets of Yedo and Yokohama, and as if the efforts of the Jap to emancipate himself for European tutelage were a sinful rebellion against all fixed economical laws—human and Divine. It is possible to be a zealous advocate for British trade without descending to the low, not to say snivelling, key in which these *misericordiæ* are pitched. Our merchants can be safely trusted, within certain limits, to look after themselves; and when they are unable to make their way in any particular sphere of activity, it would be well to devote rather more attention to possibilities of finding new markets, than to the barren task of regretting old ones.

LISBON-BERLYN.

THIS company has had a chequered career, and though the great troubles which have long overwhelmed it seem in great part to be overcome, it cannot be said that there is much encouragement to the shareholders to look forward to a very early dividend. They, however, may be congratulated on the fact that the prospects look brighter now than they have looked for a very long time, and that, if the improvement continues in the right direction, they may be amply compensated for the money they have spent and the exemplary patience they have displayed through a long series of trials. There is every evidence that the directors are doing their utmost to bring success, and there is no reason why the shareholders should not repose implicit confidence in their ability to steer the company to prosperity. It is, at any rate, encouraging to know that the reserves of ore have greatly increased during the year. At the end of September last year there were 11,000 tons in sight, now there are 24,500. It is also pleasing to know that the directors are doing their utmost to reduce costs, and that they have met with much success in this direction. The milling and dry crushing costs have been reduced from 2s. 6d. per ton to 1s. 4d. per ton, which is a considerable saving, and should help largely to swell the revenue in the future. There is also a slight reduction in the cyanide costs, with the great probability that they will be still further decreased when the plant is in full working order. Judging from their attitude at the meeting, the shareholders are apparently well satisfied with the progress that has been made and the present position of affairs.

THE RHETORIC OF THE COMPANY REGISTRATIONS.

To the imaginative mind there is something appetising about the exceeding fulness of the phraseology in which company registrations are written, drawn up, and composed. The purpose, object, and aim with which a company is promoted is set forth in such an attractive rhetorical garb that it is difficult for the most sober-minded critic to suppose that the concern will not pay handsomely, become remunerative, and return a percentage to the shareholders. When, for instance, we hear that a company has been floated to "acquire, get and own mineral properties, grants, concessions, leases, claims, mines, businesses," and so on, it requires a very sober sense to realise the possibility of failure, and more especially when the company announces that it is going to "prospect for explore, find, develop, work and maintain" its mineral holdings, not to mention its fixed resolve to "handle, manipulate, deal with, and treat," all such ores as they may become possessed of, no matter whether they are "gold, silver, copper, tin or iron" (iridium and uranium are ruthlessly left to shift for themselves in this cold and cheerless world). This sort of redundancy, pleonasm, diffuseness and verbosity are curious survivals in our age, when speed in all things is declared to be the one essential of material well-being.

MINING IN CORNWALL AND DEVON:

NOTES ON MINING IN THE WEST.

(FROM OUR OWN CORRESPONDENT.)

THE approach of the holidays has had the usual result, and there has been little or nothing doing in Cornish mine shares during the last week. After the Christmas festivities are over rather more activity may reasonably be looked for. Several of the mines are looking decidedly better in the lower levels, and with a slight rise in the price of tin shares ought to show a marked advance. The outlook at Dolcoath latterly has been hardly so bright as could be wished, but during the last few days an important improvement has been announced in the 440 east of new east. Definite information as to the value of the lode is not yet to hand, but from present appearances it would seem that they have got through the bar of poor ground. Improvements are confidently expected at an early date in several of the other levels, and the prospects altogether are more hopeful than they have been for some time past. The accounts will soon be made up for the general meeting in February. It is believed that a profit will be shown, but whether it will be sufficient to allow of a dividend being declared is uncertain.

ANOTHER improvement is reported in the Carn Brea Mines, the poverty of which has for a long period been a source of anxiety and disappointment to the shareholders. In the 332 driving from Tincroft into Carn Brea, the end, which has just passed the boundary between the two mines, has gradually grown richer—viz., now really valuable. The lode is of the full width of the end, which is 7 feet, and the last sample of stuff taken from there produced 78 lbs. of tin to the ton. There is no other end in the immediate neighbourhood, and it is hoped that the lode is under the disordered ground. It is also stated that the 344 end west at Highburrow east in the Carn Brea part of the sett, several fathoms east of the improvement just mentioned, is a very promising lode, which seems likely to increase in value. Shareholders in these mines stand in great need of some encouragement, and it is to be hoped that these improvements will be maintained, and that other equally rich discoveries will follow. Both mines have on several occasions in the past cut rich at a time when the spirits of the shareholders were at their lowest ebb, and it seems as if history were about to repeat itself. The united sett is a tremendous one, and we have never believed that a tithe of its riches were exhausted. A substantial and permanent improvement in Carn Brea and Tincroft would have a wonderfully stimulating effect on all who are interested in Cornish Mining. The report recently issued by the manager of the Basset Mines shows that work is proceeding steadily in all departments, and that the stopes are producing the usual quantities of tin. The 200 west is being driven at £7 per fathom; the leader of the lode west of the crosscourse has not yet been found, but they hope to reach it in a few days. No decision has yet been arrived at with regard to the proposed sheet head gear; it appears that it would cost at least £1400, while the cost of wooden head gear is not more than £500, and the difference may well give the executive pause. No difficulty has been experienced so far in dealing with the water. Early in the New Year the new pumping engine will be placed in position.

LEVANT meeting will be held next week, when it will probably be found that the mine is just about holding its own. A former shareholder in Levant, who was at one time a member of the committee of management, has just passed away in the person of Mr. R. Quick, who died on Monday after a short illness. Mr. Quick was for many years a familiar figure at St. Just "bal" dinners, and his "flashes of wit" would often "set the table in a roar." He is said to have realised a comfortable little fortune out of his speculations in Cornish mines.

THE MINING MARKET.

WEDNESDAY EVENING.

Three days of idleness.—Firm prices on the eve of the holidays.

AS was the case a year ago, the Making-up day in the Mining Market falls upon Christmas Eve. As *The Mining Journal* is going to press this week at an earlier date than usual, we are left in this column with the very lightest of duties, seeing that we cannot deal with the only day in the week to which any pretence of business attaches. The condition of the market this year contrasts very favourably with that of 12 months ago, when there was a good deal of mysterious selling as a prelude to the Jameson raid. There is one remarkable parallel in the sensational semi-panic which attacked the American market on the Saturday before Christmas in each year. In 1895, it will be remembered, the general market was much more seriously affected sympathetically than has been the case this year. The Mining department in particular has entirely escaped the infection of alarm, and although business has been on the smallest possible scale, the trend of prices has been distinctly upwards. There seems little need to discuss in detail the restricted movements of the three days which come within the scope of the present record. Those members of the Stock Exchange who have not taken a holiday have confined their attention to practical jokes and the singing of carols. Some little buying of Kaffirs has been attributed to the Cape, and may be connected with the arrival there of the ss. *Dunvegan Castle* and its freight of millionaires, headed by Messrs. Robinson and Barnato. There has also been conspicuous support for several of the leading West Australians, and on many sides the opinion is expressed that, immediately after the holidays, we shall see a burst of activity and higher prices in both departments. Just at the close this afternoon there is a slight set-back in Kaffirs, just sufficient to make the list of quotations even less free from alteration than it would have been.

South Africans.

Goldfields were attacked by the "bears" on Saturday, and sold down to 8⅛. Paris began to buy them on Monday, and under this influence the price advanced to over 8¾, but is finally ⅛ lower on balance at 8⅝. Gold Trusts and Goldfields Deep are unchanged at 6¾ and 7¼ respectively. There has been some enquiry for Exploring Land and Minerals, which have risen ⅛ to 1⅛. Oceana has scored ⅛ at 1⅛, whilst Rhodesia Exploring has lost ¼ at 4¼. London and South African Exploration have risen ¼ to 15½, and here the record of changes in the Land and Exploration section comes to an end. East Rands have been up to 4, but are finally only ⅛ better at 3⅞. St. Angelo has scored the same fraction at 3½. Rand Mines have been over 24, but are finally unchanged at 23¾. Consolidated Deeps have risen ¼ to 4¼. There is no feature in the Barnato group apart from an improvement of ⅛ in Ginsberg to 1⅛. The Eckstein shares are all hard, and some of them ⅛ to ¼ better. In this category come Wemmer at 7¼, Simmer and Jack at 4⅛, Salisbury at 2⅞, Nigel at 2⅛, Modders at 3⅛, and Geldenhuis at 3⅛. A dividend at the rate of 150 per cent. is declared on Ferreiras, which have improved ¼ to 18½. Amongst shares which have hardened in the general list are Bantjes at 2⅛, Crown Reef at 10¼, Knights at 4⅛, Meyer and Charlton at 5⅛, Van Ryn at 4, and Wolhuter at 4⅛. One or two of the small Lydenburg shares are a few pence easier. De Beers have specially given way this afternoon, closing ⅛ down at 28⅛. Jagers have lost ⅛ at 10⅛. Some attention has been attracted to St. Augustine Diamonds, which have improved 1s. to 4s. 3d.

West Australians.

Highly encouraging reports from the Kalgurli property caused a demand for those shares on Monday, and the price rushed up from ⅛ to 1⅛. There has since been some reaction. Great Boulders have been in demand to-day, having risen from 6⅞ to 7, which leaves them ⅛ up on the week. The usual 3 ounces to the ton crushing was announced in respect of 712 tons. Hannan's Brownhills have had a special jump to-day, closing ⅝ better at 5⅞. Ivanhoe, in which the market is restricted, has risen ⅜ to 11½ x.d. The Associated Group has been good. Associated has risen ¼ to 2⅛, Southern ⅛ to ⅜, Lake View South ⅛ to 1⅛, Oroya ⅛ to 1⅛, and Joint Stock Trust ¼ to 2⅛ premium. Northern Territories have further receded, closing ⅛ lower at 2⅛. A meeting of the Ramage Syndicate was followed by a pressure of sales, not only of Syndicate shares, but of those of the Subsidiary companies. Golden Plums and Black Flags have faded away to nothing, and Ramages are not much better than ⅛, as compared with 1⅛ last week, and very much higher prices during the summer. Wealth of Nations have risen ⅛ to 1⅛, but White Feathers are unchanged at 1⅛. In the Menzies group the only quotable change is in Lady Shentons, which have hardended to 2. West Australian Goldfields have risen ⅛ to 5⅛, but Hampton Plains at 2⅛, and Mainland Consols at 1⅞ are both ⅛ easier.

Miscellaneous.

The firmness of Indian Shares has been maintained, Mysores and Champion Reefs both being quoted at 8⅛, whilst Nundydroogs have risen ⅛ to 3⅛. One or two of the New Zealand favourites have lost a little ground. Taitapu has declined ⅛ to 2⅛, and Waihi ⅛ to 6⅞. Copper Shares are steady, with only slight changes. Tintos close at 25, Masons at 2⅝, and Tharsis and Anaconda both at 6. Broken Hills have lost ⅛ at 2⅛. Wentworth's have receded ⅛ to ⅛, whilst Aladdins have hardened to the same extent, finishing up at 1⅛.

STOCK EXCHANGE SETTLING DAYS.

Consols.

Wednesday, January 6, 1897.

MINING MAKING-UP DAYS.

Thursday, December 24. | Monday, January 11.

MINING NAME DAYS.

Monday, December 28. | Tuesday, January 12

ACCOUNT DAYS.

Wednesday, December 30. | Thursday, January 14

REVIEW.

Register of the Associates and Old Students of the Royal College of Chemistry, the Royal School of Mines, and the Royal College of Science. (London: Hazell, Watson, and Viney (Limited), 1, Creed-lane, Ludgate-hill, E.C.)

This register, which has long been awaited, has at last made its appearance, and judging from the interest which the prospective work excited, and especially from its intrinsic merits, which are many, it will receive a very warm welcome. On first looking at the book, perhaps the first exclamation of many will be one of surprise—that such a register, in so compact, readable, and artistic a form should not have been published years ago, and really should, at this late period, be the product of the enthusiasm and enterprise of its able editor, Mr. Theodore G. Chambers. A fairly complete register of the old students of the Royal School of Mines has for many years been kept in connection with the annual Old Students' Dinner; but it was not until the formation of the Students' Union in the spring of 1889 that a general register of all old students was started. In 1889 Messrs. Briscoe, Streatfeild, and Coultas began the labour of collecting information about those students who had been at what was then called the "Normal School of Science and Royal School of Mines." In 1892 Mr. Shepherd, Secretary of the Union, took up the work, and drafted a scheme for the completion of the register, a description of which may be found in the Magazine for October, 1892. Unfortunately the books containing the information collected up to this period were mislaid, and have never been found. Towards the end of the Session 1892-3, the committee who, under Mr. Shepherd, had charge of the register, found it impossible to devote sufficient time to the matter. A meeting was, therefore, held on June 6, 1893, to consider how the work should be carried on; and the present editor, Mr. Theodore G. Chambers, offered to continue the task. Since this date, progress has been continuous, though necessarily slow. Sub-committees were formed in 1893, consisting of Messrs. Barnett, Starling, Forsyth, More, and Holiday; and in 1894, of Messrs. Dunkerley, Brame, and Ferguson. The successive secretaries of the Students' Union—Messrs. C. H. Sidebotham and J. B. Chambers—also rendered valuable assistance in sending out circulars and generally aiding the work. Towards the end of 1895 it was considered that sufficient information had been collected to warrant the issue of a first edition of the register. Its publication was placed in the hands of a committee composed of Messrs. Bennett H. Brough, Assoc.R.S.M. (secretary of the Iron and Steel Institute); H. G. Graves, Assoc.R.S.M. (permanent secretary of the Old Students' Dinner Committee); J. G. Lawn, Assoc.R.S.M. (late instructor in mine surveying, Royal School of Mines); C. H. Sidebotham, Assoc.R.S.M. (late secretary of the Students' Union); J. B. Chambers (secretary of the Students' Union, 1896); J. W. Hinchley, Assoc.R.S.M. (editor of the "Royal College of Science Magazine" and "Journal of the Royal School of Mines);" and Theodore G. Chambers, Assoc.R.S.M., as secretary and editor. And now that it has finally made its appearance, we have nothing but praise for the committee and editor for the admirable manner in which they have produced it. It is true that there are errors to be found throughout its pages, but these are minor and altogether unimportant blemishes, and are inevitable in a first work of this character. As regards its get-up, we do not think that this could possibly be improved upon. The portraits and illustrations are life-like, and in themselves are perfect, whilst the biographical notices accompanying them make a contribution to the literature of the day on this class of study. Here are the portraits and biographies of some of the most famous scientists of the past and present generation, and few people realise that the School has turned out so many eminent men. We congratulate the editor upon the success which has attended his efforts, and assure him that he will be amply rewarded by the universal recognition with which the work will be received.

THE BERTRAND-THIEL PROCESS.*

By PERCY C. GILCHRIST, A.R.S.M., F.R.S.

THE process consists in doing in two furnaces, or two series of furnaces, what has hitherto been done in one furnace, and in employing a temperature sufficiently high to cause the metal flowing from the first series of furnaces to emit a copious vapour, which, when seen, is reddish brown.

The results obtained are:—1. Quality equal to Swedish from any non-sulphurous pig.—2. A yield hitherto unapproached—viz., 100 of pig produces more, much more, than 100 of steel.—3. Speed of working is greater per furnace than heretofore. Possibly, this speed will be 24 charges in 24 hours from five 20-ton furnaces say, 480 tons of steel per day of 24 hours.

The author has had the privilege of studying the process *in situ* on two recent occasions—the first, November 6 to November 9; the second, December 3 to December 5.

The process consists—

1. In employing a furnace powerful enough to melt wrought iron if it should be necessary; in charge 84,499 it made the metal tapped from the primary furnace so hot that metallic iron volatilised freely.†

2. In dividing the work to be done between two or more series of furnaces.

Not less than three furnaces should be employed; two to superheat, desiliconise, partially dephosphorise and decarbonise. Possibly six furnaces would be best; four to superheat molten metal from the blast furnace; one to desiliconise and dephosphorise to 0·10 per cent.; and the sixth furnace to reduce this to 0·01, and to make ready for casting. That is—primary, secondary, and finishing furnaces. Good work can be, and is being done, with only one primary and one finishing furnace.

The metal from these two superheating furnaces is conveyed to the third furnace; the slag goes into a bogey.‡

3. In the finishing furnace the remaining phosphorus and carbon are removed.

At present in the primary furnace the ore and lime are added with the charge (in the middle); in the No. 2 or finishing furnace some ore and limestone are added with the charge (in the middle), the balance of ore and lime, if necessary, being added just before it receives the metal from the primary or No. 1 furnace.

* From a paper read at Middlesborough before the Cleveland Institute of Engineers.

† We had the familiar brown smoke rising from the metal as it ran down the landers. This probably arose from two causes.

(1) The metal may have been composed of carbide of iron dissolved in fluid iron.

(2) This fluid iron was so hot that it freely volatilised.

This metallic iron vapour under these conditions was oxidised as formed, just as it is at the end of the afterblast in basic Bessemer process, or in the acid process when over a certain amount of silicon is present.

‡ At Kladno at present there are only two furnaces, one primary and one finishing; there ought, the author thinks, to be at least three primary furnaces.

The author proceeded to give tables of figures in which he gave a record of the materials charged, the products obtained in four charges.

In the fourth and last charge, No. 84,499, he said 10 per cent. of scrap and 90 per cent. of pig were used.

The changes that took place in No. 1 (primary) furnace are shown in the annexed table:—

	The composition of the mixture of pig and scrap charged into No. 1 furnace.		The composition of the product tapped from No. 1 furnace.		Difference.
	English analysis. Per cent:	Kladno analysis. Per cent	English analysis. Per cent.	Kladno analysis. Per cent.	Per cent.
Carbon	3·956	3·74	2·370	2·12	1·226
Silicon	0·598	0·98	0·018	0·032	0·580
Sulphur	0·036	—	0·066	—	0·030
Phosphorus	0·584	0·62	0·049	0·035	0·535
Manganese	2·440	3·07	0·145	0·082	2·295

1·62 ton of oxide of iron equal to 1·75 ton of Gellivara ore, and 0·5 ton of lime, were used. 2·70 and 2·59 respectively, 0·500 ton lime ought to have been used.

The metal in No. 2 furnace, after being mixed with that from No. 1 furnace, contained—

	Calculated on actual composition of metal leaving No. 1 furnace. English analysis. Per cent.	Kladno analysis. Per cent.
Carbon	2·390	2·29
Silicon	0·093	0·172
Sulphur	0·042	—
Phosphorus	0 069	—
Manganese	0·647	0·685

The metal came in contact with 1·5 ton of ore, 0·6 ton of limestone (0·32 lime), and 0·15 ton of lime.

1·0 ton of ore and all the limestone were added with the pig and scrap, the remainder (0·2 ton of ore and the lime) just before tapping No. 1 furnace.

After 15 minutes the composition was:—

	English analysis. Per cent.	Kladno analysis. Per cent.
Carbon	0·030	0·017
Silicon	nil	trace
Sulphur	0·030	—
Phosphorus	0·010	0·034
Manganese	0·200	0·051

In No. 1 (primary) furnace:—

	Per cent.
Carbon	1·20
Silicon	0·58
Phosphorus	0·53

had been removed.

In No. 2 (finishing) furnace:—

	Per cent.
Carbon	2·36
Silicon	0·09
Phosphorus	0·06

had been removed in 15 minutes or less. The metal was kept in the furnace two hours and 20 minutes. It might have been tapped in 30 minutes if there had not been an excess of oxygen in the metal which had to be got rid of.

This, the author thinks, means that if such a furnace were employed as the feeder to the basic Bessemer converter, that no after-blow would be required. He would ask you to note that this metal must be hot enough to be treated in the basic converter, because it—the metal—is copiously emitting vapour of iron.

It also means that if such a furnace be employed as a feeder to a second Siemens' furnace, then that such furnace in less than one hour would be ready for casting steel with traces of phosphorus, and with any desired carbon whatever.

Let us now carefully examine our fourth and last charge, No. 844,99. The phosphorus has here been reduced from 0·584 to 0049 per cent., whilst the carbon remained at 2·37 per cent., confirming the experience gained in the previous charge.

If the oxide of iron in the No. 1 (primary) furnace were increased sufficiently, then the whole of the carbon could be eliminated. This, however, would be most undesirable.

Probably, it will be best to use sufficient oxide of iron in both No. 1 (primary) furnaces and No. 2 (finishing) furnaces, so that the carbon in the mixed metal (from No. 1 and No. 2 furnaces) shall be between 0·20 per cent. and 0·60 per cent. Practice alone can determine the exact per cent. of carbon that it will be best to leave in the metal.

The plain English of these results is that, in the author's opinion, a commercial pig and ore direct process is now before the steel trade.

It will, however, be well to consider how shall scrap be melted. Certainly not directly as heretofore; possibly either by dropping it into pig metal heated to the vapourising point of Fe., or, as Mr. Bertrand has suggested, by running such superheated metal on to steel scrap previously heated to a point just short of that at which it too rapidly oxidises.

The limits of silicon and phosphorus that it will be advisable to put into the pig will be, the author believes, the limits that can be put in by the blast furnace.

It is possible that the best place to use up tap cinder and mill cinder (made on an oxide or a basic bottom) will be in the Bertrand-Thiel process, and not in the blast furnace.

As regards speed of working, it is possible that from charges consisting of all molten pig of the above composition, 24 charges at least would be made per 24 hours from five furnaces—*i.e.*, four superheating No. 1 (primary) furnaces to one No. 2 (finishing) furnace. The author regards this as a minimum, and that the speed might become much greater.

In conclusion, an apple, if left to Nature, has and always will in this world fall. It seems equally clear to the author that basic steel can now be produced from molten pig iron direct from the blast furnace; that whatever be the composition of the pig as regards silicon and phosphorus (the pig must, however, be made with a grey slag), the quality will be equal, if not superior, to that which has been produced from the purest ores such as has been produced for so many years in Styria and Sweden.

It seems to him to be equally clear that 100 of pig will produce more than 100 of steel, and that it is not improbable that the total waste of iron in both pig scrap and ore charged will be limited to that required by Nature to be associated with silica and phosphate of lime as a fertiliser.*

* So that the steel works will supply the farmer with an excellent manure for his crops, one containing lime, silica, a little oxide of iron, and much more easily soluble phosphate of lime.

All the above ingredients being in such a form that they can, by the aid of rain and the soil, be readily assimilated by the plants.

It is the slag from the primary furnaces that will probably be so used; that from the finishing furnaces will be invaluable in the primary furnaces.

Interest Coupon No. 6 of the CONSOLIDATED GOLD FIELDS OF SOUTH AFRICA (LIMITED), 5½ per cent. first debentures to bearer, due January 1 next, will be paid, less income-tax, on and after that date at the London Joint Stock Bank (Limited), 5, Princes-street, E.C.

During the month of November the JOHANNESBURG CONSOLIDATED INVESTMENT COMPANY (LIMITED) received from South Africa from the various companies for which they are agents 17,693 ounces of gold, valued at £63,333.

THE METAL MARKETS.

THE METAL MARKET, LONDON, DECEMBER 23,

Copper.

THE G.M.B. market opened steady with business in cash G.M.B.'s at £48 7s. 6d., the main tendency for the remainder of the day being towards greater firmness, and three months being done at £49 1s. 3d. and £49 2s. 6d., whilst £48 10s. was paid for end December. Consumption continues good, but people are not much disposed to operate this side of the holidays. Notwithstanding the absence of support from consumers, however, the comparative firmness of the speculative market has continued, there being no pressure of sales, and Tuesday brought business at up to £48 12s. 6d. s.c. and £49 6s. 3d. three months, the two positions realising this (Wednesday) morning £48 15s. and £49 7s. 6d. respectively, followed, however, by £48 13s. 9d. for s.c. This afternoon brought a firmer market, with cash done at up to £48 18s. 9d. and three months £49 10s., whilst the close is at £48 18s. 9d. to £49 s.c., and £49 11s. 3d. to £49 12s. 6d. three months.

Tin.

Buyers predominated when the market opened on Monday, and cash Straits were done at £57 10s. to £57 17s. 6d. in the course of the day, with three months at £58 10s. and £58 12s. 6d. The support was again continued on Tuesday morning, and £58 1s. 3d. to £58 3s. 9d. s.c. and £59 three months were recorded, but there was rather more selling power in the afternoon, with a corresponding easing-off in value, £58 being taken for cash and £58 17s. 6d. for three months, the slackness being still the feature of the market on Wednesday morning, when cash changed hands at £57 16s. 3d. to £57 17s. 6d. and three months at £58 16s. 3d. This afternoon's business was at £57 17s. 6d. s.c. and £58 18s. 9d. three months, and the market closed in firm tendency with the two positions respectively quoted at £57 18s. 9d. to £57, and £58 17s. 6d. to £58 18s. 9d. In the Dutch market the price of spot Billiton has ruled at 34⅜ fl. from Monday to Wednesday inclusive, whilst that of three months has improved ⅛ fl.,—viz., to 35 fl. Banca is quoted at 35⅜ fl.

Pig Iron.

The Scotch market opened steady, and Monday's transactions resulted in values advancing from 48s. 3d. to 48s. 5d. cash, and from 48s. 7d. to 48s. 9d. a month. Tuesday's rates were somewhat easier, cash going down to 48s. 11½d. at one month to 48s. 7d. To-day's market was steady, with business at 48s. 4d. to 48s. 7d. s.c., and 48s. 8d. to 48s. 10d. one month, the final prices being 48s. 7d. and 48s. 10½d. respectively, with Middlesbrough at 40s. 8d., and hematite at 50s. 9½d. Scotch shipments last week were advised as about 3250 tons, or slightly less than in the parallel period of 1895.

Lead

opened firm, and has remained steady all through, with but little business, consumers deferring purchases till after the holidays. The close is at £11 10s. to £11 11s. 3d. soft foreign, and £11 12s. 6d. to £11 15s. English.

Spelter

has increased in firmness during the present week, the quantities offered being restricted. Values have accordingly improved, and the close is firm at £17 15s. to £17 17s. 6d. ordinaries, and £17 17s. 6d. to £18 specials.

Antimony

is a firm market at £30 to £31.

Quicksilver

is unchanged at £6 12s. 6d. firsts, and £6 12s. seconds.

The following are to-night's (December 23) prices of metals:—

	£ s. d.	£ s. d.
Copper		
Tough cake and ingot	51 0 0	51 10 0
Best selected	51 12 6	52 12 6
Electrolytic Copper	52 15 0	54 5 0
Sheets and sheathing	—	63 0 0
Flat bottoms	—	63 0 0
Chili bars, Good merchantable, Copper tubes, seamless (spot, & 3 months respectively)	49 0 0	49 12 6
Alloys		
Brass: Wire	—	0 0 6
,, Tubes (solid drawn)	—	0 0 7
,, Sheets	—	0 0 8¼
Phosphor Bronze: Alloys II. (Cog Wheel Brand)	—	81 0 0
,, III. (Cog Wheel Brand)	—	83 0 0
,, VII. (Cog Wheel Brand)	—	78 0 0
,, XI. (Cog Wheel Brand)	—	72 0 0
,, Vulcan brand A1	—	72 0 0
Duro Metal	—	72 0 0
Bull's Metal	—	66 0 0
Ferrobronze (Vivian's)		
Ingots per lb.	0 0 8¼	—
Ordinary sheets, plates, bolts and bars	0 0 7¾	—
Screw bolts and nuts	0 0 8¾	—
Pump rods, plain	0 0 7¾	—
,, finished	0 0 10¾	—
Delta Metal: No. 4 (per ton)	—	—
,, Sheets and plates (per lb.)	—	—
,, Bars, round, square, flat (per lb.)	—	—
,, ,, hexagon (per lb.)	—	73 0 0
Tin		
English, Ingots, f.o.b.	—	62 10 0
,, bars	—	63 10 0
,, refined	—	64 10 0
Straits, spot, and three months respectively	58 0 0	58 12 9
Australian, spot, and three months respectively	59 11 3	60 10 0
Banca ,, (in Holland)	59 5 0	59 7 6
Tin Plates; Charcoal, best quality per box	0 14 0	0 18 6
,, ,, ordinary	0 11 3	0 13 9
,, Coke, best quality	0 10 6	0 11 0
,, ,, ordinary	0 10 3	0 10 6
These prices of tinplates are f.o.b. at Swansea; at Liverpool 6d. per box more.		
Iron		
Pig, G.M.B., f.o.b., Clyde, spot	—	2 8 7
,, Scotch pig, No. 1 Gartsherrie	—	2 13 0
,, ,, Coltness	—	2 14 0
,, ,, Clyde	—	2 11 6
,, ,, Govan	—	2 9 3
Bars, Welsh, f.o.b. Wales	—	5 12 6
Plates ,, ,,	—	—
Bars, Staffordshire, at works	—	6 0 0
Sheets ,, ,,	—	6 10 0
Plates ,, ,,	—	6 10 0
Hoops ,, ,,	—	6 2 6
Ship plates, Middlesborough	5 5 0	5 7 6
Steel; English spring (spot & cast)	12 0 0	18 0 0
,, Rails at works, according to section	4 18 6	5 0 0
Lead		
Spanish or soft foreign	11 10 0	11 11 3
English pig, common	11 12 6	11 15 0
,, L.B.	—	12 2 6
,, sheet and bar lead	—	12 12 6
,, pipe	—	13 2 6
,, red	—	14 10 0
,, white	—	17 10 0
,, patent shot	—	15 5 0
Spelter		
Silesian ordinary brands	17 15 0	17 17 6
,, special brands	17 17 6	18 0 0
English Swansea	—	18 5 0
Sheet Zinc	20 5 0	23 10 0
Antimony		
Antimony	30 0 0	31 0 0
Quicksilver		
Flasks, 75 lbs. warrants	6 11 0	6 12 6
Manganese (Ore, c.i.f., U.K. ports)	per unit.	
1st quality, 50 per cent. and upwards	0 0 11	0 1 1¼
2nd ,, 47 per cent. to 50 per cent.	0 0 10	0 1 0
3rd ,, 40 ,, 47 per cent.	0 0 9	0 0 11
Aluminium	Per lb.	Per lb.
28-99½ per cent.	0 1 4¼	0 1 6
Nickel		
98-99 per cent. guaranteed	0 1 2	0 1 4

The Metal Exchange is closed until Monday next, the 28th instant, and will be again after the morning Session on Thursday, the 31st instant, until the following Monday, January 4.

"THE MINING JOURNAL" SHARE LIST.

ABBREVIATIONS AND REFERENCES.—The following are the significations of the abbreviations and references which occur in the Share List:—*Ay*, Antimony; *A*, Arsenic; *Bl*, Blende; *Bx*, Borax; *C*, Copper; *D* Diamond; *G*, Gold; *I*, Iron; *L*, Lead; *M*, Mundic; *N*, Nitrates; *P*, Phosphates; *Q*, Quicksilver; *R*, Ruby; *S*, Silver; *S-l*, Silver-lead; *Sul*, Sulphur; *T*, Tin; and *Z*, Zinc. * in the "Amount of Share" column of British Mines signifies that the mine is conducted on "Cost Book" principles; ‡ in the "Head Office" column of African Mines signifies that the address given is not that of the head office but of a sub, or transfer office; and †, following the names of African Mines, signifies that they are subject to the Limited Liability Law of the South African Republic.

*** The following is by far the most complete and comprehensive list of mines, in whose shares business is being currently transacted, published. Additions will be made from time to time as occasion requires. Every effort is made to ensure accuracy, and Secretaries of Companies, Share Dealers, and our readers generally, are cordially invited to co-operate with us to this end, by notifying us of any errors that may at any time occur. We desire it to be understood that while our Share List will almost invariably be found correct, we do not hold ourselves responsible for any loss or inconvenience that may arise from possible inaccuracies.

AFRICAN MINES.

Name.	Closing Price, Dec. 23, 1896	Closing Price Dec. 18, 1896.	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Office.
			£		£ s. d.			
Adler Consolidated	¾ 1	¾ 1	1 0	2/ Oct. 15, '96	1 0 0	250,000	Transvaal.	1, Moorgate place.
African Estates......	1⅛ 1¼	1⅛ 1¼	1 0	2/& rts Oc.16 95	1 0 0	438,600	De Kaap...	3, Copthall-buildings
,, Gold Recvry.	⅜ ½	½ ¾	1 0	rts Oct 30 '95	1 0 0	175,000	—	23, College Hill,
Afrikander ...... G	1 1¼	1 1¼	1 0	rts May 24 '95	1 0 0	40,000	Transvaal.	23, College Hill
Alexandra Estate G	¼ ⅜	¼ ⅜	1 0	—	1 0 0	225,000	Rand	16, George street
Angelo	3⅛ 3⅜	3 3¼	1 0	—	1 0 0	175,000	—	Winchester House
Anglo-French Exp.	2⅞ 3	2⅞ 3	5 0	3/- Sept. 30 '96	5 0 0	30,300	S. Africa	3, Princes street
,, Matabeleland	¾ 1	—	1 0	—	1 0 0	39,750	Matabld.	Winchester House.
Appantoo .... G	—	—	1 0	—	1 0 0	77,885	West Coast	Dashwood House.
Aurora .... G	¾ 1	¾ 1	1 0	5% Mar.,'93	1 0 0	65,000	Rand	8, Old Jewry.‡
,, West United.	¾ 1	¾ 1	1 0	—	1 0 0	100,000	,,	7, Lothbury
Balkis Eersteling G	/9 1 3	1/ 1,6	10/	—	0 10 0	520,000	Transvaal	85, Gracechurch-st.
,, Land	4/ 4/6	3/6 4/	10/	1/ Feb. 13, '96	0 0 0	520,000	,,	,,
Bantjes Consol ...G	2 2⅛	1 13/16 2 1/16	1 0	rts Sep 24 '95	1 0 0	83,000	,,	15, Geo. st., Mn Ho.
Barnato Consol ...	1 11/16 1 13/16	1¾ 1⅞	1 0	—	1 0 0	1,000,000	—	7, Lothbury.
Barrett.......... G	11/ 12/	11/ 12/	10/	—	0 9 0	207,496	De Kaap	17, Basinghall-street
Bechuanaland Exp.	1 1/16 1 3/16	1 1/16 1 3/16	1 0	rts Jy 24 '95	1 0 0	400,000	Bechuana.	19, St.Swithin's-lane
Big Golden Quarry	—	/3 /6	5/-	—	0 5 0	483,226	Kaap Rivr	Warnford Court,
Block "B" Lang.	15/16 1 1/16	15/16 1 1/16	1 0	—	1 0 0	535,000	Rand	1, Bank Buildings
Bonanza	3⅜ 3⅝	3⅛ 3¼	1 0	—	1 0 0	200,000	Turffont'n	120, Bishopsgate-st.
Brit. S. A. Char. ..	2⅜ 2⅝	2⅜ 2⅝	1 0	x rts Nov 12 96	1 0 0	,999,750	S. Africa	15, St. Swithin's-lane
Buffelsdoorn...... G	1⅝ 1¾	1 11/16 1 13/16	1	16/- Nv. 28 '95	1 0 0	250,000	Potchefstr	7, Lothbury.
,, Central	¼ ⅜	¼ ⅜	1 0	—	1 0 0	—	—	8, Old Jewry
,, Consolidated	¼ ⅜	¼ ⅜	1 0	—	1 0 0	225,000	—	Warnford Court
Cape Asbestos	—	¾ ⅞	1 0	—	1 0 0	50,311	Orange Rv	19, St. Swithin's-lane
,, Copper C	2 13/16 2 15/16xd	2¾ 2⅞ xd	2 0	3/ Dec. 11 '96	2 0 0	300,000	Cape Col.	9, Queen-street-place,
,, 6% Pref. ...	2⅝ 2¾ xd	2⅝ 2¾ xd	2 0	3/ Dec. 11, '96	2 0 0	45,000	,,	,,
Cassel Coal............	1 9/16 1 11/16	1 9/16 1 11/16	1 0	1/6 Oct. 29 '96	1 0 0	75,000	Johanbrg.	33, Cannon-street.
Cen. de Kaap	/9 1/3	/9 1/3	5/-	—	0 5 0	240,000	De Kaap	Palmerston Bldgs
,, Roodp't Deep	1⅜ 1⅝	1⅜ 1⅝	1 0	—	0 0	220,000	—	120, Bishopsgate st,
Champ d'Or...... G	1 1⅛	1 1⅛	1 0	3/2 Feb. 27 96	1 0 0	118,016	Rand	8, Old Jewry, E.C.
Charterland G.F ...	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	150,000	—	19, S. Swithin's lane
Chimes West	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	150,000	—	Winchester Ho.
City and Sub. Nw G	4 4⅛	4 4⅛	4 0	2/- Oct. 29, '96	4 0 0	340,000	Rand	Gresham Ho.
Con. Bultfontein D	31/ 32/	31/ 32/	1 0	9d, July 15,'96	1 0 0	721,500	Griqualnd	62, Lombard-st
Con. Deep Levels G	4 4⅛	3⅞ 4⅛	1 0	6/- Oct. 29, 96	1 0 0	187,250	Transvaal	30, St. Swithin's-lane
Con. G. Fields S A.	8 11/16 8 13/16	8¾ 8⅞	1 0	15/ Nov 12 '96	1 0 0	1,250,000	S. Africa	8, Old Jewry,
Do. 6% Pref.	1 1⅛	1 1⅛	1 0	7 1-5d Jne26'96	1 0 0	1,242,999		,,
Do. 5½% Deben...	107 109	107 109	5 0	5½% July1,'96	5 0 0	600,000	,,	,,
Crown Deep ......G	9⅞ 10⅛	9⅞ 10⅛	1 0	—	1 0 0	250,000	Rand	120, Bishopsgate-st.
,, Reef ......G	10⅛ 10⅜	9⅞ 10⅛	1 0	12/ Oct. 29, '96	1 0 0	120,000	,,	,,
DeBeers Consol. D	28⅜ 28⅞	29 5/16 29 9/16	5 0	22/- July15 '96	5 0 0	789,791	Kimberl'y	62, Lombard-street.
Do. 5% 1st Deb....	108 110	107 109	1 0	5% July'1 '96	1 0 0	£3,500,000	,,	,,
Do. 4½% Bul. Ob.	99 101	99 101	1 0	4½% Oct, 1'96	1 0 0	£720,000	,,	,,
Driefontein	2 2¼	1⅞ 2⅛	1 0	—	1 0 0	175,000	—	Winchester Ho.
Durban Roodept. G	6⅛ 6⅜	6⅛ 6⅜	1 0	3/- Sept.18'96	1 0 0	£125,000	Rand	28, Leadenhall-bldgs
,, Deep.........	3⅜ 3⅝	3¼ 3½	—	—	—	—	—	
Eastleigh ....G	9/16 11/16	9/16 11/16	1 0	rts May 14 '96	1 0 0	240,000	Klerksdrp	57, Leadenhall Street
East Orion.........	1/16 ¼	1/16 ⅛	1 0	—	1 0 0	275,000	Rand	8, Old Jewry.
,, Rand......... G	3⅜ 3⅝	3⅜ 3⅝	1 0	—	1 0 0	570,000	,,	170, Winchester-ho.
Exploration	2¼ 2⅜	2¼ 2⅜	1 0	rts June 26 '96	1 0 0	148,000	S. Africa	30, S. Swithin's-ln.‡
Exploring L & M...	1¼ 1⅜	1 3/16 1 5/16	1 0	2/ Dec. 16, '95	1 0 0	216,215	,,	19, ,,
Ferreira ....G	18¼ 18¾	18 18½	1 0	25/ Aug. 28'96	1 0 0	45,000	Rand	120, Bishopsgt st. Wn‡
French Rand	2 1/16 2 5/16	2 2¼	1 0	—	1 0 0	480,000	Rand.........	28, Austin Friars.
Geldenhuis Deep G	3¾ 4¼	3¾ 4¼	1 0	—	1 0 0	265,000	Transvaal .	30, St. Swithin's-lane
,, Estate G	3⅝ 3⅞	3 3¼	1 0	2/6 Oct. 29 '96	1 0 0	187,500	Rand	120, Bishopsgt st. Wn‡
,, Main Reef	⅜ ¾	⅜ ¾	1 0	2/ Feb. 13 96	1 0 0	150,000	,,	Warnford Court, E.C
George Goch ...G	1 7/16 1 9/16	1 7/16 1 9/16	1 0	—	1 0 0	100,000	,,	Johannesburg.
Ginsberg New ...G	1⅝ 1⅞	1⅝ 1⅞	1 0	—	1 0 0	130,000	Drietfon .	Warnford Court, E.C‡
Glencairn ....G	2⅜ 2⅝	2 5/16 2 7/16	1 0	rts Sep. 30 '96	1 0 0	200,000	Rand	2, Drapers-gardens.
Golden Dove	⅞ 1⅛	⅞ 1⅛	1 0	—	1 0 0	60,000	Natal	65, Chancery Lane.
Gld. Fls. Deep...G	7⅜ 7⅝	7⅜ 7⅝	1 0	—	1 0 0	600,000	S. Africa	8, Old Jewry.
,, of Lydenb'rg	1⅝ ⅞	1⅝ 2	1 0	—	—	—	Lydenb'rg	7, Lothbury.
,, of Mashonld.	⅝ ¾	⅝ ¾	1 0	—	1 0 0	200,000	Mashonld.	19, St. Swithin's-ln.
,, Tirra d'l F'go	14/ 14/6	14/ 14/6	—	—	—	—	—	75, Leadenhall Street
Graskop ....G	2/ 3/	2/9 3/3	5/-	2½% Mar. '92.	0 5 0	400,000	Lydenburg	2, Tokenhouse Bldgs
Gt. Estrn. Colliery	13/16 15/16	13/16 15/16	1 0	—	1 0 0	376,666	Grootolei	Gresham House,
Griqualand W....D	8 8¼	7⅞ 8⅛	10 0	4/ July 15, '96	10 0 0	105,700	Transvaal .	62, Lombard-street
Heidelbg. Est. Ex.	¼ ⅜	¼ ⅜	1 0	—	—	—	Heildelbg.	
Henderson's Trans	1 13/16 1 15/16	1⅞ 2	1 0	—	1 0 0	250,000	Zoutpanbg	85, Gracechurch st.
Henry Nourse ...G	6¼ 6½	6¼ 6½	1 0	—	1 0 0	100,000	De Kaap...	Warnford-court.
J b'g Con. Invst (N)	2⅜ 2⅝	2 5/16 2 7/16	1 0	2/ Sep. 30, '96	1 0 0	650,000	—	7, Lothbury.
,, Pioneer	8 9	8 9	1 0	8/ Oct. 15,'96	1 0 0	21,000	Rand.........	Johannesburg.
Jubilee ....G	6¾ 7¼	6¾ 7¼	1 0	4/ Oct. 29 '96	1 0 0	30,000	,,	8, Old Jewry.†
Jumpers ....G	4 4⅛	3⅞ 4⅛	1 0	6/- Mar. 27 '96	1 0 0	100,000	,,	120, Bishopsgt st. Wn‡
,, Deep......	4 5	5 6	1 0	—	1 0 0	300,000	,,	30, S. Swithin's lane
Kimberley ....D	par ½pm	par ½ pm	1 0	1/ June 26, '96	0 10 0	93,672	Kimberley	19, Finsbury circus
,, Rdpt....	1⅞ 2⅛	1⅞ 2⅛	1 0	—	1 0 0	125,000	,,	2, Drapers-gardens
Kleinfontein Cen.	¼ ⅜	¼ ⅜	1 0	—	1 0 0	225,000	E. Rand ...	Winchester House
Klerksdorp	8/3 8/9	8/3 8/9	10/-	—	0 10 0	400,000	Klerksdorp	110, Cannon St.
Knight's Deep	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	295,194	Rand......	8, Old Jewry
Koffyfontein......D	⅝ ¾	⅝ ¾	1 0	x.rts.Jun10'96	1 0 0	125,000	Jacobsdaal	6, Gt. St. Helen's.
Lancaster	2 2 1/16	1 15/16 2 1/16	1 0	—	1 0 0	226,500	Luip. Vlei	20, Bishopsgt st. Wn
Langlaagte Est. G	4¼ 4½	4¼ 4½	1 0	3/ July 30 '96	1 0 0	470,000	Rand.........	1, Bank Buildings
,, Royal	⅝ ¾	9/16 11/16	1 0	rts. Mar. 8 '96	1 0 0	100,000	,,	2, Drapers-gardens.
,, Star...	⅜ ½	⅜ ½	1 0	—	1 0 0	170,000	,,	1, Bank Buildings
Lisbon-Berlyn ... G	4/9 5/3	5/ 5/6	2/6	—	0 2 6	883,233	Lydenburg	Suffolk House,
Lon. Paris Fin & M.	15/16 1 1/16	⅞ 1	1 0	—	1 0 0	500,000	—	53, Old Broad Street
London & S. A. Ex.	16½ 16¾	16¼ 16½	10/	4/- Sept,30 '96	0 10 0	100,000	S. Africa ...	19, Finsbury-circus.
Luipaards Vlei.. ...	1 5/16 1 7/16	1⅜ 1½	1 0	6% Mar. '90	1 0 0	319,093	Rand...... ...	Warnford-court.‡
Lydenburg Estate.	1 1/16 1 3/16	1 1/16 1 3/16	1 0	—	1 0 0	190,000	Lydenburg	85, Gracech. Street
Main Reef (New) G	13/16 1 1/16	13/16 1 1/16	1 0	—	1 0 0	111,500	Rand.........	15, George St., Mn H
Marievale Nigel ...	⅜ ⅞	⅜ ⅞	1 0	—	1 0 0	250,000	,,	
Mashon. Agency...	1 11/16 1 13/16	1⅝ 1¾	1 0	2/ Ap. 16 '96	1 0 0	100,000	Mashonald	8, Old Jewry, E.C.
,, Central...	⅝ ⅞	⅝ ⅞	1 0	—	1 0 0	160,000	,,	
Matabelel'd G. R'f	4 4¼	3¾ 4	1 0	—	1 0 0	110,000	Matabelel'd	3, Copthall-buildings
May Con. (New) G	2 1/16 2 3/16	2 2⅛	1 0	2/- Mar. 12 96	1 0 0	236,500	Rand...... ...	4, Lothbury.‡
Meyer & Charl....G	5⅝ 5⅞	5¾ 6⅛	1 0	5/ Feb. 13 96	1 0 0	75,020	,,	2, Bishopsgt st. Wn
Minerva	5/16 7/16	5/16 7/16	1 0	—	1 0 0	150,000	,,	Winchester House.
Mines Selection ...	⅞ 1	⅞ 1	1 0	—	1 0 0	100,000	—	33, Br'd St. Avenue.
Modderfontein.. G	2 7/16 2 9/16	3⅜ 3⅝	1 0	rts Aug. 28 '96	1 0 0	200,000	Rand.........	13, George Street
,, 'B' Extensn.	15/16 1 1/16	15/16 1 1/16	1 0	—	1 0 0	325,000		28, Austin Friars
Molyneux Consoll.	⅞ 1⅛	⅞ 1⅛	1 0	—	1 0 0	220,000	Modderftn	20, Bishopsgate st
Moodies ....G	⅜ ⅝	⅜ ⅝	1 0	-/4 May '90	1 0 0	240,000	,,	Gresham House.
Mozambique.........	1¼ 1⅜	1¼ 1⅜	1 0	—	1 0 0	400,000	S.E. Africa	13, Austin Friars.
Namaqua C	1¾ 2	1¾ 2	2 0	3/- July 15 '96	2 0 0	94,331	Namaqualand	34, Leadenhall-bldgs.
New African	2 2¼	2 2¼	1 0	5/ July 15 '96	1 0 0	190,000	—	83, Hatton Garden.
,, Bultfontein D	1⅜ 1½	1⅜ 1½	1 0	1/- July 30 '96	1 0 0	150,000	Griql'd. W.	6. Drapers Gardens
,, Chimes...... G	⅝ ¾	⅝ ¾	1 0	1/- Mar.27 '96	1 0 0	100,000	Rand.........	8, Old Jewry, E.C
,, Comet	1 1¼	1 1¼	1 0	—	1 0 0	175,000	Heidelburg	Winchester-house.
,, Crœsus...... G	11/16 13/16	11/16 13/16	1 0	rts Apr 17 '95	1 0 0	265,000	Langlaagte	120, Bishopsgt. st. Wn
,, Heriot ......G	7⅜ 7⅝	7⅜ 7⅝	1 0	4/ Oct. 29, '96	1 0 0	88,750	Rand.........	96, Gresham Ho EC
,, Jagersf. ....D	10 3/16 10 5/16	10 3/16 10 5/16	5 0	2/ Sep. 30, '96	5 0 0	200,000	Transvaal .	5, Copthall-buildings
,, Kleinfontein G	2⅝ 2⅞	2⅝ 2⅞	1 0	rts. Sep. 30 '96	1 0 0	87,500	Rand.........	Winchester House
,, Midas	1⅛ 1⅜	1⅛ 1⅜	1 0	rts.Jan. 16, '96	1 0 0	150,000	Mid'le Vlei	78, Cornhill,
,, Primrose ...G	4 4¼	4 4¼	1 0	rts.Sep. 30, '96	1 0 0	278,750	Rand.........	2, Draper's-gardens.
,, Rietfontein G	2 2⅛	2 1/16 2 3/16	1 0	—	1 0 0	160,000	,,	Warnford-ct., E.C.
,, S. Augustine D	4/ 4/6	3/ 3/6	1 0	—	0 10 6	299,137	Griqu'ld W	30-1, St. Swithin's ln
,, Spes Bona.. G	¾ 1	¾ 1	1 0	—	1 0 0	113,701	Rand.........	24, N. John-st., E.C.
,, Steyn Estate	1 1/16 1 3/16	1⅛ 1¼	1 0	—	1 0 0	165,000	Heidelberg	19 Bury Street ‡

AFRICAN MINES—(*Continued*).

Name.	Closing Price, Dec. 23, 1896	Closing Price, Dec. 18, 1896.	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Office.
			£					
Nigel .... G	2⅛ 2⅜	2 2⅛	1 0	rts Aug 10 '95	1 0 0	160,000	Rand.........	96, Gresham Ho EC
,, Deep ......G	1 3/16 1 5/16	1 3/16 1 5/16	1 0	—	1 0 0	195,000	Heidelberg	8 Old Jewry
North Charterland	5/ 7/ nom	5/- 7/- nom	1 0	—	1 0 0	800,000	—	Winchester House
,, Randfontein	1⅝ 1⅞	1⅝ 1⅞	1 0	—	1 0 0	235,000	—	8, Princes street
Nourse Deep.........	3¾ 4¼	3¾ 4¼	1 0	—	1 0 0	375,000	Rand.........	120, Bishopgt.-st., Wn
Oceana Consoldatd	1⅛ 1¼	1 1/16 1 3/16	1 0	—	1 0 0	—	Wtrbg Lyn	13, Austin Friars.
,, Devlpmnt	¼ ⅜	¼ ⅜	1 0	—	1 0 0	50,000	Heidelbrg.	
,, Minerals ...	⅛ ⅜	⅛ ⅜	1 0	—	1 0 0	500,000	,,	,,
Orange F.S.E. ....D	2⅝ 3	2⅝ 3	1 0	4/6 Apr., 29, 96	1 0 0	284,000	OrangeF.S.	50, Gresham Street
Orion (New)...... G	9/16 11/16	9/16 11/16	1 0	10% Aug. '95	1 0 0	30,000	Rand.........	8, Old Jewry.
Paarl Central ... G	⅞ 1	⅞ 1	1 0	—	1 0 0	138,750	Transvaal .	120, Bishopsgt st. Wn.
Pardy's Mozambq.	⅜ ⅝ nom	⅜ ⅝ nom	10/	rts Mar 96	0 10 0	90,620	S.E. Africa	Broad St. Avenue.
Piggs Peak ...... G	5/16 9/16	½ ⅝	1 0	—	0 10 0	200,000	Swazieland.	4, Sun Court.
Porges Randfontn.	1 3/16 1 5/16	1 3/16 1 5/16	1 0	2/ Feb. 13 '96	1 0 0	457,500	Rand.........	1, Bank Buildings
Potchefstroom... G	5/16 7/16	5/16 7/16	1 0	—	1 0 0	389,750	Potchefst...	19, Bury-st., E.C.
Princess Estate G	2⅝ 2¾	2 2¼	1 0	—	1 0 0	125,000	Rand.........	20, Bishopsgate st
Rand Central Ore	¾ 1¼	1 7/16 1 9/16	1 0	25 p c Aug. 95	1 0 0	115,000	—	8, Princes-street, E.C
Randfontein ......G	2¼ 2 5/16	2 3/16 2 5/16	1 0	xr June 12, 96	1 0 0	2,000,000	Rand.........	1, Bank Buildings
Rand Mines ...... G	23⅛ 23⅜	23⅛ 23⅜	1 0	—	1 0 0	332,798	,,	120, Bishopsgt st. Wn‡
Rand-Rhodesia Ex	9/16 11/16	⅜ ⅝	1 0	10 p.c. Oct. '95	1 0 0	25,000	R&Rhodesa	123, ,,
Rhodesia Ex & Dv.	4⅛ 5	4⅛ 5	0	—	1 0 0	50,000	Mt & Mash'l	15 & 16, Geo. St. EC
Robinson(SA)Bank	4 4⅛	4¼ 4¾	4 0	4/ Apl. 15, 96	4 0 0	750,000	—	1, Bank Buildings
,, Deep......	6⅛ 7⅜	6¾ 7⅛	1 0	—	1 0 0	500,000	M'nR'/R'nd	120, Bishopsgate st.
,, Diamond	⅞ 1⅛	⅞ 1⅛	1 0	—	1 0 0	350,000	Kaal Valley	1, Bank Buildings
,, Gold......	8⅜ 8⅝	8⅜ 8⅝	5 0	5/ July 20 '96	5 0 0	550,000	M. Rf.'rand	28, Austin Friars
,, Randftn.	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	517,000	Rand.........	1, Bank Buildings
Roodepoort Deep	⅞ 1⅛	⅞ 1⅛	1 0	—	1 0 0	170,000	,,	8, Old Jewry, E.C.
Roodepoort Un. G	3⅞ 4⅛	3⅞ 4	1 0	2/ July 30 '96	1 0 0	130,000	,,	Warnford-court,‡
Rose Deep............	3⅜ 4¼	3¾ 4¼	1 0	—	1 0 0	300,000	M. Rf.'rand	30-31, S.Switn's lane
Rothery Block......	3/16 5/16	3/16 5/16	1 0	—	—	—	—	55, Bishopsgate st
Sacke Estates	⅞ 1⅛	⅞ 1⅛	1 0	2/ June 12 '96	1 0 0	225,000	—	19, Bury Street,
St. Helen's Devel.	1⅜ 2 nom	1⅜ 2 nom	1 0	—	1 0 0	47,950	S. Africa ...	13, S. Helen's Place,
Salisbury New ...	2⅝ 3	2⅝ 2⅞	1 0	—	1 0 0	99,000	Rand.........	98, Gresham Ho., EC
Sheba ....G	2 2⅛	2 2⅛	1 0	1/- Sept.30'96	1 0 0	850,000	Lydenburg	18, S. Helen's place.
Simmer & Jack...G	4⅜ 4⅝	4 4⅛	5 0	3/ Aug 14 95	5 0 0	940,000	Rand......	8, Old Jewry.
S.A GoldTrust New	6⅝ 6⅞	6⅝ 6⅞	1 0	7/6 Jun 26 '96	1 0 0	250,000	S. Africa ...	,,
Spitzkop (New) G	⅜ ½	⅜ ½	1 0	—	1 0 0	99,070	Lydenburg	15, Bishopsgt-st. Wt.
Stanhope ....G	⅜ ⅝	⅜ ⅝	1 0	1/- Sept 30 '96	1 0 0	34,000	Rand...	98, Gresham Ho., EC
Sutherland R. ...G	1/ 2/	1/ 2/	1 0	—	1 0 0	220,000	Zoutpansbg	Dashwood Ho.
Tati Concessions ...	1⅛ 1¼	1⅛ 1¼	1 0	rts Jy. 22 '95	1 0 0	392,000	—	Gresham House.
Trans. Coal Trust...	1 5/16 1 7/16	1 5/16 1 7/16	1 0	1/-Apr. 29, 96	1 0 0	439,965	Rand......	Broad-st. House, EC
,, Consolidatd	1⅛ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	485,131	Transvaal	120, Bishopsgt st Wn
,, Est. & Dev.	⅝ ⅞	11/16 13/16	1 0	—	1 0 0	428,600	,,	10, New Broad-st. EC
,, Gold Fields	2⅝ 3⅛	2⅞ 3	1 0	3/- Apr. 15 '96	1 0 0	135,000	S. A. R.......	120, Bishopsgt.-st. Wn
,, Land.........	¼ ⅜	5/16 7/16	1 0	—	1 0 0	79,915	Transvaal .	25, Abchurch Lane.
Treasury............G	1¼ 1⅜	1¼ 1⅜	4 0	12½% Sep.'91	4 0 0	135,000	Rand.........	Warnford Court.
United Exploratn.	½ ¾	½ ¾	1 0	—	1 0 0	250,000	—	120, Bishopsgte St.
,, Ivy Reef......G	¾ 1	¾ ⅞	1 0	/6 June 26 '96	1 0 0	45,000	Transvaal .	110, Cannon-street.
,, Langlaagte(N) G	⅝ ¾	⅝ ¾	1 0	—	1 0 0	148,000	Rand.........	85, Gresham Ho., EC
,, Mines Bultf. D	1 1½ nom.	1 1½ nom	1 0	1/ Aug. 28, '96	1 0 0	125,000	Kimberley	20, Bishopsgate St.
Van Ryn .... G	3⅞ 4⅛	3⅞ 4	1 0	4/- Jan. 16 '96	1 0 0	160,000	Rand.........	18, St. Swithin's-ln.
,, North ...	¼ ½	¼ ½	1 0	—	1 0 0	116,091	—	,,
,, West......	1⅝ 2	1⅝ 2	1 0	—	1 0 0	120,000	Rand	,,
Vesta	¼ ½	¼ ½	1 0	—	1 0 0	130,000	Rand	Winchester House
Village Main Reef	4⅛ 4⅜	4⅛ 4⅜	1 0	rts June 26 '96	1 0 0	177,000	,,	8, Old Jewry.
Vogelstruis Estate	3⅞ 4⅛	3⅞ 4⅛	1 0	—	1 0 0	200,000	,,	Winchester House.
,, Cons. Deep ...	1¼ 1⅜	1⅛ 1⅜	1 0	—	1 0 0	327,750	,,	16, Geo. St. Mn. H
Wassau ....G	1⅜ 1⅝	1⅜ 1⅝	1 0	—	1 0 0	100,000	Gold Coast	147, Cannon-street
Wemmer ....G	7⅜ 7⅝	6⅞ 7⅛	1 0	10/ Apr. 23 96	1 0 0	55,000	Rand.........	19, Bury-street,‡
Western Nigel......	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	207,000	Main Reef	Suffolk House,
West Rand.........G	1¼ 1⅜	1 5/16 1 7/16	1 0	—	1 0 0	240,000	Rand.........	13, Geo. St., Mans. Ho.
Willoughby's Con.	1 3/16 1 5/16	1 3/16 1 5/16	1 0	—	1 0 0	700,000	Mashonald	3, Copthall-bldgs.
Witwatersrand G	4 9/16 4 11/16	4⅜ 4⅝	1 0	—	1 0 0	250,000	Rand.........	19, Bury-st., E.C.
Wolhuter ....G	4⅛ 4⅜	4⅜ 4⅝	1 0	rts Apr 28 '94	1 0 0	130,000	,,	Warnford-court,†
Worcester ....G	3⅞ 4⅛xd	3⅞ 4⅛xd	1 0	3/- Dec. 11 '96	1 0 0	90,727	Rand.........	8, Old Jewry.‡
Zambesia Explora.	1⅜ 1⅞	1⅜ 1⅞	1 0	—	1 0 0	65,000	Transvaal .	30-31, Clement's lane

BRITISH MINES.

Name.	Closing Price, Dec. 23, 1896	Closing Price, Dec. 18, 1896.	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Office.
			£		£ s. d.	£		
Basset	14/ 16/	14/ 15/	1 0	—	1 0 0	65,000	Cornwall	Redruth.
Blue Hills .....CT	1/ 1/6	2/ 3/	*	2/- May, '81	5 19 5	5,353	,,	Camborne.
Carn Brea & Tinct T	1/- 2/-	1/ 2/	1 0	2/6 Dec., '93	22 8 5	—	,,	Carn Brea.
Devon Gawton CA	20/ 25/	15/ 20/	1 0	—	0 15 0	25,000	Tavistock	8, Finsbury circus.
,, Gt Cons. CA	⅜ 1⅛	¾ 1	5 0	1/6 May '95	2 0 0	10,240	Devon ...	,,
Dolcoath ....T	16/6 17/6	16/6 17/6	1 0	—	1 0 0	188,000	Cornwall	Camborne.
,, ...	6/ 7/	6/ 7/	1 0	—	0 10 0	25,000	,,	,,
Drakewalls CTM	/6 1/	/6 1/	5/	—	0 2 0	61,856	,,	Dashwood House.
East Pool ....AT	⅞ 1	⅞ 1	*	1/6 Sept, '94	0 9 9	6,400	Cornwall	Illogan.
Great Laxey.......L	1⅛ 1⅜	1¼ 1½	4 0	5/- Apr., '92	4 0 0	15,000	I. of Man	Gresham House.
Halkyn	10 11	10 11	1 0	2/6 June 26'96	1 0 0	10,000	Flint	Chester.
Isle of Man L	5¾ 6¼	5 5½	5 0	2/- Dec 11, '96	5 0 0	11,000	I. of Man	,,
Killifreth ....T	¼ ⅜	¼ ⅜	—	—	—	—	Cornwall	
Leadhills L	1 1⅛	1 1⅛	6 0	2/6 Oct. 15, 96	6 0 0	20,000	Lanarksh.	Finsbury House.
Levant ....CT	3⅛ 3⅜	3 4	*	4/- Nov., '94	11 9 6	2,500	Cornwall	Penzance.
Polberro ....T	¼ ⅜	4/ 5/	*	—	2 1 5	18,000	S. Agnes, Cl.	37, Walbrook.
South Crofty TA	1/- 2/-	⅛ ¼	*	—	17 10 6	5,769	,,	Pool, Cornwall.
Weardale L	2/	8/9	4 0	1/3 Oct. '90	1 10 0	60,000	Durham...	3, Lombard-court.
West Kitty ....T	2¼ 2¾	2¼ 2¾	*	2/- Dec, '94	1 2 0	6,000	Cornwall	37, Walbrook.
Wheal Agar ...TA	1/ 2/6	1/6 2/6	*	2/6 Aug. '88	23 15 2	6,000	,,	Redruth.
,, Friendly..T	1/ 1/6	1/ 1/6	*	—	0 12 8	10,000	,,	2, Copthall Bldgs. E.C
,, Grenville T	3⅛ 4⅛	3⅛ 4⅛	*	3/- Nov 28 '95	18 2 0	6,000	,,	7, Union-court, E.C.
,, Kitty......T	3/ 4/	—	*	3/- Mar. '88	4 5 8	8,590	,,	Truro.
,, Metal & F.T	2/- 2/6	3/ 3/6	*	—	0 3 0	60,000	,,	14 Broad-street Av.

INDIAN AND ASIATIC MINES.

Name.	Closing Price, Dec. 23, 1896	Closing Price, Dec. 18, 1896.	Am't. of Share	When last XD and Dividend.	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Office.
Balaghat Mysore G	/3 /9	/3 /9	1 0	—	1 0 0	160,000	India	6-7, Queen-street-pl.
Burma Ruby.......R	⅜ ¾	⅜ ¾	1 0	—	0 18 0	298,370	Burmah...	Suffolk House. E.C.
Champion Reef...G	8 5/16 8 7/16	8 7/16 8 9/16	1 0	4/6 Aug. 13 '96	1 0 0	211,645	India	6-7, Queen-street-pl.
Colar Central ...G	—	—	1 0	—	1 0 0	200,000	,,	Dashwood Ho., E.C.‡
Coromandel...... G	2⅛ 2¼	2 1/16 2 3/16	1 0	—	1 0 0	120,000	,,	6-7, Queen-st.-place
Gold Flds Mysore G	19/6 20/6	20/ 21/	1 0	1/- July '92	1 0 0	220,000		6-7, Queen-street pl.
Kadur Mysore......	5/6 6/6	5/6 6/6	5/	—	0 5 0	400,000	,,	Copthall House, E.C
Kempinkote Gd Fd	1/3 1/9	1/ 1/6	5/	—	0 4 0	575,310	India	6-7, Queen-st.-place
Mysore .... G	8¼ 8⅜	8¼ 8⅜	0	7/ Oct. 29 '96.	1 0 0	248,354	,,	6-7, Queen-street pl
,, Harnhalli ...G	—	—	1 0	—	0 18 6	100,007	,,	13, Copthall Avenue
,, Reefs ...G	5/6 6/6	5/6 6/6	1 0	—	0 19 6	160,000	,,	6-7, Queen-street-pl.
,, West (N) G	9/16 11/16	9/16 11/16	1 0	rts. Jan. 16 '96	0 19 6	127,408	,,	2, Gt. Winchester St
,, Wynaad G	⅛ ⅜	⅛ ⅜	1 0	rts. Jan. 16 '96	0 19 6	125,000	,,	6-7, Queen-street-pl.
Nine Reefs ....G	6/3 6/9	6/6 7/	10/	—	0 3 6	250,000	,,	,,
Nundydroog.......G	3⅜ 3⅝	3 9/16 3 11/16	1 0	2/- Nov. 12 '96	1 0 0	200,000	,,	,,
Ooregum (Df.O.) G	3 3⅛	3 3⅛	1 0	2/ Nov. 2 '96	1 0 0	145,000	,,	,,
,, (10% Pref.).	3⅜ 3⅝	3⅜ 3⅝	1 0	2/ Nov. 26 '96	1 0 0	107,011	,,	,,
,, (10% Pref.).	2⅛ 2⅜	2⅛ 2⅜	1 0	2/ Nov. 26 96	0 5 0	12,989	,,	,,
Panang Rabang T	1/16 3/16	1/16 ⅛	1 0	—	1 0 0	200,000	Malay Pn.	4a, Jeffrey's st. EC
,, Corp.......	8/ 10/	8/ 10/	—	—	—	—		
Yerrakonda ......G	/3 /9	/3 /9	4/	—	0 3	167,481	Mysore ...	6-7 Queen-st.-pl.

"THE MINING JOURNAL" SHARE LIST—(Continued).

AUSTRALIAN AND NEW ZEALAND MINES.

Name	Closing Price, Dec. 23, 1896	Closing Price, Dec. 18, 1896.	Am't. of Share	When last XD and Dividend.	Called up per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Office.
Aladdin's Lamp G	1⅝ 1⅞	1⅝ 1⅞	1 0	2/ Sept. 30 '96	1 0 0	100,000	L'knN S.W	4-6, Throg. Avenue.
Anglo-Cont. Corp	¾ 1	¾ 1	1 0	100% '95	1 0 0	125,000	—	Worcester House.
" French Exp	⅛ ⅜ pm.xd	⅛ ⅜ pm xd	1 0	3/ Dec. 1', 96	0 10 0	40,000	W. Austral	3, Princes Street.
" Ger.Explor.	⅛ ⅜ pm.xd	⅛ ⅜pm xd	1 0	2/6 Dec. 11'96	0 10 0	40,000	"	"
Aroha G	⅝ ¾	⅝ ¾	1 0	—	1 0 0	100,000	N. Zealand	30, S. Swithin's Lane
Arrow Brownhill G	⅜ ½	⅜ ½	1 0	—	1 0 0	93,007	Cool., W.A.	4, Gt. Winchester St.
Assoc. Gold Mines	2¼ 2⅜	2 2⅛	1 0	bo June 28 '96	1 0 0	375,000	"	1, Queen Victoria-st.
Australasian G	4/6 5/6	4/6 5/6	1 0	-/6 Mar. '92	1 0 0	10,000	Gymp.Q'ld	6, Queen-st. place
Australian C	—	—	20 0	1/-July 30 '96	7 7 6	218,315	S. Austral.	42, New Broad-street
Aus. Bro. Hill Con.	/9 1/3	/9 1/3	1 0	1/- June, '91	0 19 3	574,799	BarR.NSW	Winchester House.
Baker's Creek G	⅝ ⅞	⅝ ¾	1 0	1/- May '95	0 17 6	500,000	H'gveNSW	Hillgrove, N.S.Wales.
Bamboo Queen & R	¾ 1	¾ 1	1 0	—	1 0 0	—	Pilb., W.A	38, Coleman Street.
Bayley's Reward G	3/ 4/	3/ 4/	1 0	-/4 Dec. 94	1 0 0	480,000	Coolgardie	F'sb'y. H. Bl'mf'ld St.
Big Blow G	5/ 6/	5/ 6/	1 0	—	1 0 0	150,000	"	151, Cannon Street.
Black Flag Consld.	⅛ ¼	3/16 5/16	1 0	—	1 0 0	140,000	Coolgardie	4, Bishopsgte St. Wn
" Propty.	⅛ ¼	⅛ ¼	1 0	—	1 0 0	600,000	Coolgardie	1, Metal Exch. Bldgs
Blagroves Freehld	2/3 2/9	2/3 2/9	2/6	—	0 2 6	500,000	Corom. N Z	Dashwood House.
Blue Spur and G. G	10/- 11/-	10/ 11/ nom	1 0	3% Aug.13, '96	1 0 0	82,298	Otago, N.Z.	6-8, Great St. Helen's
Bonnie Dundee G	4/6 5/6	6/ 7/	1 0	—	0 19 0	120,000	C. T.Q'land	16, S. Helen's Place
Brilliant G	11/16 13/16	11/16 13/16	2 0	/4 Oct. 26, '96	2 0 0	250,000	"	Charters Towers.
" Block G	11/16 13/16	¾ ⅞	1 0	-/6 Dec. 16 '95	1 0 0	70,000	"	16, S. Helen's Place
" St. Geo. G	1⅜ 1¾ xd	1½ 1¾ xd	10/	/9 Dec. 8, '96	0 10 0	72,000	"	Charters Towers.
Brit. Brok. Hill S	11/16 13/16	11/16 13/16	1 0	—	1 0 0	240,000	N.S. Wales	Dashwood Ho., E.C.
Broad Arrow	/6 1/	/6 1/	5/	—	0 5 0	400,000	W.Feather	57, Moorgate Street.
Broken Hill Prop. S	2 7/16 2 9/16	2⅜ 2⅝	8/	1/- Oct. 29, '96	0 8 0	960,000	N. S. Wales	3, Gt. Winchester st.
Brownhill Prosty.	5/16 5/16	5/16 5/16	1 0	—	1 0 0	67,500	Hannan's	4, Gt. Winchester st
Burbank's Birthd'y	1⅜ 1⅝	1⅜ 1½	1 0	—	1 0 0	160,000	Coolgardie	Copthall House.
Cassidy Hill G	6/ 7/	6/ 7/	1 0	—	1 0 0	115,000		9-10, King Street,
Central Boulder G	⅛ ⅜	7/16 9/16	1 0	—	1 0 0	93,522	K'g'rl, WA	Wor'st'r Ho., Walbr'k
" Exp. & Invst.	⅛ ⅜ dis	⅛ ⅜ dis	1 0	1/8d Mar 12'96	1 0 0	200,000	W. Austral	1, Met. Exchg. Bldgs
" " of W. A.	¼ ⅜	¼ ⅜	1 0	1/7½ Mar 27 96	1 0 0	122,000	"	2, "
Charters Tow. G	1/ 1/6	1/ 1/3	10/	—	0 9 6	200,000	Queensland	110, Cannon Street
Colonial Finance	1⅜ 1⅜pm	1⅝ 1⅞ pm	1 0	10/ Mar. 27 '96	0 10 0	21,140	W. Austral	139 "
" Gold Fields	⅛dis ⅛pm	⅛ dis ⅛ pm	1 0	—	0 12 6	75,250	"	70, Cornhill.
Con. G. M. of W. A.	5/16 7/16	¼ ⅜	1 0	—	1 0 0	246,779	Pilbarra ...	30, Moorgate Street.
" Murchison	⅛ ¼	¼ ⅜	1 0	—	1 0 0	225,533	Murc., W A	Broad Street House.
Contl. & W.A. Trust	⅜ ½	7/16 9/16	1 0	—	1 0 0	104,467	W. Austral	"
Coolgardie Gold	8/ 9/	8/ 9/	10/	x.rts.Jun12'9	0 5 0	90,000	Cool. W.A.	Broad Street Avenue
" Mint & I.Kg.	15/16 1 1/16	13/16 15/16	1 0	—	1 0 0	150,000	"	30, S. Swithin's ln.
Croesus So. United	5/16 7/16	5/16 7/16	1 0	—	1 0 0	115,000	Hann'sWA	Blomfield House
Crown United	⅝ ¾	⅝ ⅞	1 0	—	1 0 0	75,000	—	110, Cannon-st., E.C.
DayDawn B.&W. G	12/ 13/	12/ 13/	1 0	-/6 Sept.16,'96	1 0 0	498,400	"	16, S. Helen's Place
" P. C. G	2/3 2/9	2/3 2/9	1 0	-/6 Apr, '92	1 0 0	490,000	"	Winchester Ho.. E C
Eagle's Nest	15/16 1 1/16	15/16 1 1/16	1 0	—	1 0 0	2,500	Mt.Margrt	Finsbury House.
East Hauraki	1/ 2/	1/ 2/	5/	—	0 5 0	400,000	Haur'ki NZ	"
Explorers Synd.	⅛ dis ⅛ pm	⅛ dis ⅛ pm	1 0	2/6 April 29'96	1 0 0	9,000	W.Austral	Copthall House
Fingall R'fs, Extd	—	—	1 0	1/4 Jan. 16 '96	1 0 0	150,000	"	4, Sun Court
Florence G	⅝ ¾	11/16 13/16	1 0	—	1 0 0	60,000	"	18, St. Swithin's ln
Gibraltar Cons.	11/16 13/16	1½ 1¾	1 0	—	1 0 0	300,000	N S Wales.	6, Queen-street-place
Gladiator G	⅜ ⅝	⅜ ¾	1 0	—	1 0 0	—	W. Austral	43, Threadneedle st
Glenrock G	/9 1/3	/9 1/3	10/-	—	0 8 6	450,000	N. Zealand	3-5, Queen-st. E.C.
Golden Cement G	7/16 9/16	7/16 9/16	1 0	—	1 0 0	175,000	W.Austral	3, Princes Street, EC
" Crown G	15/16 1 1/16	15/16 1 1/16	1 0	—	1 0 0	100,000	"	54, Old Broad Street
" Gate G	/3 /9	/3 /9	10/	—	0 10 0	150,000	Queensland	34-36, Gresham-st.
" Horse Shoe	15/16 1 11/16	15/16 1 11/16	1 0	—	1 0 0	—	W.Austral	13, Helen's Place
" Link G	⅜ ⅝	⅜ ⅝	1 0	5/- Oct 30'95	1 0 0	90,000	"	9-10, King Street, E.C
" Plum G	—	—	1 0	—	1 0 0	120,000	"	4, Bishopsgate Street
Gold Estates	1⅛ 1⅜	1⅛ 1⅜	1 0	3/ June 12 '96	1 0 0	80,000	"	20, Bishopsgte-st Wn
Great Boulder G	6 13/16 7 1/16	6 13/16 6 15/16	1 0	5/ Nov. 12, 96	1 0 0	240,000	Yilgarn ...	3, Gracechurch st.
" " Junction	15/16 1 1/16	15/16 1 1/16	—	—	—	—	"	Worc. Ho., Walbrook
" " M'n R'fs	1¼ 1⅜	1 1/16 1 3/16	10/	—	0 10 0	240,000	—	3, Princes Street.
" Fingall Rfs.	5/16 5/16	¼ ⅜	1 0	5% Jan. 16, 96	1 0 0	175,000	Kurnalpi	Broad Street House
Gresham Synd.	¼ dis par	¼ dis par	1 0	4/ &bo.Jul[illegible]96	1 0 0	50,000	W. Austral	13-14, Abchurch ln
Hainault	⅝ ¾	⅝ ¾	1 0	—	1 0 0	70,000	—	82, Gordon st., Glas.
HamptonGoldFlds	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	—	—	9, S. Mildred's Ct.
" GoldHill	2/9 3/3	2/9 3/3	1 0	—	1 0 0	—	—	93-94, Gracechurch st
" Plains	2 7/16 2 9/16	2⅜ 2⅝	1 0	rts May 14 '96	1 0 0	300,000	Cool. W.A.	29, S. Swithin's lane
" PlainsEx	3/ 4/	3/ 4/	1 0	—	0 18 0	180,000		Suffolk House, E.C.
Hannan's BrwnHil	5 11/16 5 13/16	5 1/16 5 3/16	1 0	—	1 0 0	65,000		Broad Street House
" Devel'pm'nt	1 1⅜	1 1⅛	1 0	—	1 0 0	147,000	"	5, Moorgate-st.-bldgs
" Main Reef	4/6 5/6	4/6 5/6	10/	—	0 10 0		Kalg. W. A.	18, St. Swithin's ln.
" North	5/16 7/16	5/16 7/16	1 0	—	1 0 0	51,107	"	33, Cornhill.
" 100 Acre	⅜ ⅝	⅜ ⅝	1 0	—	—	—	"	Dashwood House.
" Oroya	13/16 15/16	1 1⅛	1 0	—	1 0 0	—	"	1, Queen Victoria-st.
" Prop.	⅝ ⅞	⅝ ⅞	1 0	—	0 10 0	—	—	139, Cannon Street.
" Reward G	1 5/16 1 7/16	1 5/16 1 7/16	1 0	—	1 0 0	70,000	Hann. WA	Bartholomew Ho.
" Star	13/16 15/16	⅝ ⅞	1 0	—	1 0 0	—	E.Coolgde.	Finsbury House E.C
Hauraki G	16/ 17/	16/3 16/9	2/6	1/ Sept. 30 '96	0 2 6	320,000	Coromndl.	Dashwood Ho.; E.C
Herbert Gold	¾ 1	¾ 1	1 0	—	1 0 0	85,000	Cool., W.A.	35, Lombard street.
Hit or Miss	11/16 13/16	11/16 13/16	1 0	—	1 0 0	120,000	"	1, Queen Vict. St.
Idaho GS	2/6 3/6	2/6 3/6	5/	-/6 Jan. 16 '96	0 4 8	143,439	W. Austral	Copthall House.
Kabeonga G	1/ 1/3	1/ 1/3	10/	—	0 9 9	249,250	Queensland	70-71, Bishopsgate st
Kalgurli	13/16 15/16	⅝ ¾	1 0	—	1 0 0	34,000	W. Austral	20, Threadneedle-st
Kapanga G	9/9 10/3	10/ 10 6	1 0	rts May 24 '96	0 19 6	249,760	N.Zealand	9, New Broad-street
Kathleen	3/ 3/6	3/ 3/6	2/6	—	0 2 6	600,000	Ha'raki, NZ	Dashwood House
" Crown	2/ 2/6	2/ 2/6	2/6	—	0 2 6	664,258	"	"
Kintore G	—	½ ¾ dis	1 0	—	0 15 0	44,000	W. Austral	13, Abchurch lane.
Komata Queen	2/9 3/3	2/9 3/3	2/6	—	0 2 6	600,000	Ha'raki, NZ	Dashwood House,
" Reefs	11/6 12/6	12/3 12/9	5/-	—	0 5 0	200,000	"	"
Kurauni Caledo'an	⅛ dis ⅛ pm	⅛ dis ⅛ pm	1 0	—	1 0 0	150,000	"	20, G. Winchester St
Kurnalpi G	3/ 4/	3/ 4/	1 0	—	—	—	Coolgardie	Throgmorton House
Lady Loch	1⅛ 1⅜	1 1/16 1 3/16	1 0	—	1 0 0	70,000	"	34-36, Gresham-st.
" Shenton	1 15/16 2 1/16	1⅞ 2	1 0	—	1 0 0	—	—	18, St. Swithin's ln
Limerick	¾ 1	¾ 1	1 0	—	1 0 0	52,537	Coolgardie	Leadenhall Buildgs.
Ln. & Con. Invest.	⅛ dis par	⅛ dis par	1 0	—	0 5 0	500,000	W. Austral	79, Queen Street.
Lon. & Globe Fin.	4⅝ 4¾	4 11/16 4 13/16	1 0	rts Mar. 27 '96	1 0 0	150,000	"	15, Austin Friars.
Londonderry G	3/6 4/6	3/6 4/6	1 0	—	1 0 0	467,000	"	1, Gt. Winchester-st.
L.&W. Aust. Expl.	15/16 1 1/16	⅞ 1	1 0	4/-Nov 29 '94	1 0 0	270,100	"	Broad Street Ho.
Lon. W. A. Invest.	1⅜ 1⅝	1 9/16 1 11/16	1 0	1/ Aug 13 '95	1 0 0	100,000	"	"
Mainland Cons. G	1 13/16 1 15/16	1⅞ 2	1 0	—	1 0 0	150,000	Murchison	54 Old Broad Street
Mawson's Rewrd. G	¾ ⅞	¾ ⅞	1 0	—	1 0 0	60,000	"	28 & 29, S.Swithin's ln
Menzies Gold Est.	⅜ ½	5/16 7/16	1 0	—	1 0 0	—	"	Broad Street House
" Gold Reef	⅝ ¾	⅝ ¾	1 0	1/ June 26, '96	1 0 0	175,000	"	25a, Old Broad Street
" (O'Driscoll)	5/16 7/16	⅜ ⅝	1 0	—	1 0 0	—	"	16, Tokenhouse Yard
Mills' Day Dawn G	⅝ ⅞	⅝ ⅞	1 0	-/6 Aug 29 '95	0 15 6	300,000	Queensland	16, S. Helen's Place
Mosman G	2/6 3/	2/6 3/	1 0	—	0 19 0	135,000	N.S. Wales	Bishopsgate House
Mount Lyell	8⅛ 8⅜	8⅛ 8⅜	3 0	rts June 26,'96	3 0 0	300,000	Tasmania	Finsbury House
Mount Margaret	1 13/16 1 15/16	1 11/16 1 13/16	1 0	—	1 0 0	—	W. Austral	28, St. Swithin's ln.
" Morgan G	3 7/16 3 9/16	3 3/16 3 5/16 xd	1 0	-/6 Dec. 11, 96	0 17 6	1,000,000	Queensland	9, Gracechurch-st.
" Rowe	½ ¾	½ ¾	1 0	—	1 0 0	75,000	Coolgardie	44, Coleman Street
MurchisonN.Ch'm	3/6 4/6	3/6 4/6	1 0	1/- Oct 30 '95	1 0 0	160,000	"	23, College Hill.
N'e Hauraki Props	1/6 2/6	2/ 3/	5/	—	0 5 0	320,000	Ha raki, NZ	Dashwood House.
" Queen G	6/6 7/6	6/6 7/6	1 0	-/6 Sep 12 '95	0 13 6	158,915	Queensland	71-72, King Wm. St.
" Z. Jubilee	¾ 1	¾ 1	1 0	—	1 0 0	100,000	UTh'm'sNZ	20, Gt. Win. St.
Norseman	1⅛ 1⅜	1 1¼	1 0	—	1 0 0	200,000	Dundas ...	30, S. Swithin's lane
North Boulder	1 1⅛	1⅛ 1¼	10/-	rts July 15, '96	0 10 0	—	W. Austral	18, Helen's Place
" Coolgardie	/3 /9	/6 1/	5/	—	0 4 0	400,000	Pilbarra ...	228, Winchester Ho.
" Kalgurli	⅝ ⅞	⅜ ⅝	1 0	—	1 0 0	—	—	11, Abchurch lane
Paddington Cons.	1 5/16 1 7/16	1¼ 1⅜	1 0	—	1 0 0	75,000	W. Feather	77, Bishopsgate-st.
Pambula	⅞ 1	⅞ 1	1 0	—	—	100,000	N. S. Wales	45-46, Broad St. Av'e
Pilbarra G. F.	9/16 11/16	9/16 11/16	1 0	2/ May 14,'96	1 0 0	100,000	Pilb, W. A.	38, Coleman-street.
Preeces Pt. Prop.	2/9 3/3	2/9 3/3	5/	—	0 4 6	400,000	Coro. N.Z.	Dashwood House
Ramage Syndicate	⅞ 1	1 1⅛	1 0	£2&rts F.13 96	1 0 0	60,000	W. Austral	4, Bishopsgate-st.
Royal Oak	1/9 2/3	2/ 2/6	5/-	—	0 5 0	400,000	Ha'raki, NZ	Dashwood House.
" Sovereign	1 1⅛	1 1⅛	1 0	—	1 0 0	60,000	Coolgardie	8, Old Jewry, E.C.
Sherlaws	7/6 8/6	7/6 8/6	1 0	—	1 0 0	25,000		Broad Street Avenue
ScottishAustralian	5/16 7/16	5/16 7/16	1 0	-/3 Aug., '95	1 10 0	200,000	N. S. Wales	Winchester Ho. E.C.
Scotty's Hauraki	2/ 3/6	3/ 3/6	5/0	—	0 5 0	330,000	Ha'raki, NZ	63, New Broad-street
Southern Star	1/3 1/9	1/3 1/9	2/6	—	0 2 6	600,000	Coro. N.Z.	63-4, New Broad-st.
South Kalgurli	⅜ ⅞	⅜ ⅝	1 0	—	1 0 0	60,000	W. Austral	20, Great Win. St.
Stray Shot & Excl	5/16 5/16	5/16 5/16	2/6	—	1 10 0	—	Pilb., W A	20, S. Swithin's lane
Success	2/ 3/	2/ 3/	2/6	—	0 2 6	400,000	Coro. N. Z.	Dashwood House.
Taitapu G. Estate	2 7/16 2 9/16	2 11/16 2 13/16	1 0	—	1 0 0	125,200	Nelson, NZ	9, S. Mildred's Court
Tararu Creek	7/ 8/	8/ 9/	10/	—	0 8 0	160,000	Ha'raki, NZ	Dashwood House.
Thames Hauraki	¾ 1	¾ 1	1 0	—	1 0 0	300,000	"	54, Old Broad Street.
Tokatea of Hauraki	1/9 2/3	1/9 2/3	5/-	—	0 5 0	530,000	"	63, New Broad St.
Town Prop. of W A	⅞ 1	¾ 1	1 0	—	1 0 0	250,000	W. Austral	28-9, S. Swithin's-ln
Triumph	3/ 3/6	3/- 4/-	5/	—	0 5 0	400,000	Ha'raki, NZ	Finsbury House.
True Blue	7/ 8/	5/16 5/16	1 0	—	1 0 0	—	"	Dashwood House.
Union Waihi	par ¼ pm	par ¼ pm	1 0	—	0 10 0	141,250	Tham's, NZ	11, Abchurch Lane
Victor Waihou	3/ 4/	3/6 4/6	10/	[illegible]	0 10 0	340,000	K'rghk'NZ	63, New Broad St.
Victory (C.T.) G	5/ 6/	5/ 6/	5/	[illegible]	0 3 10	40,000	Queensland	32, Gresham-st. E.C.

AUSTRALIAN AND NEW ZEALAND MINES—(Continued).

Name.	Closing Price, Dec. 22, 1896	Closing Price. Dec. 18, 1896.	Am't. of Share	When last XD and Dividend	Called up Per Share.	Amount of Stock or No. of Shares Issued.	Situation of Mine.	Office.
Waihi G	6¾ 7 xd	6⅞ 7⅛xd	1/	2/ Dec 11,'96	1 0 0	167,000	Th'ams NZ	11, Abchurch-ln. E.C
" G. Junction	1 1/16 1 3/16	⅞ 1	1 0	—	1 0 0	110,000	U ThmsNZ	18, Finsbury Circus
" Silverton	11/16 13/16	¾ ⅞	1 0	—	1 0 0	60,000	Oh'n'miNZ	23, College Hill
Waitekauri	4⅛ 4⅜	4⅛ 4⅜	1 0	1/ Nov 12, '96	1 0 0	138,000	WKauriNZ	11, Abchurch Lane
" Central	7/3 7/9	7/3 7/9	10/-	—	0 7 6	130,000	"	63, New Broad St.
" Cross	1 1⅛	1 3/16 1 5/16	1 0	—	1 0 0	100,000	"	19a, Coleman Street
" Extended	7/6 8/6	7/6 8/6	10/	—	0 10 0	130,000	Ha'raki, NZ	63, New Broad St.
" United	⅛ ⅜ pm	9/16 11/16 pm	1 0		1 0 0	51,000	"	Finsbury House.
Waratah G	9/6 10/6	9/6 10/3	10/	—	0 10 0	100,000	Crydn, N Z	43, Threadneedle st
Water Trust Min.	⅜ ⅝	⅜ ⅝	1 0	—	1 0 0	120,000	W. Austral	Broad Street House
W. of Nations	1 1⅛	⅞ 1	1 0	—	0 15 0	—	—	77, Bishopsgate-st.
Wentworth G	7/16 9/16	½ ⅝	1 0	1/- Apl 15 '96	1 0 0	500,000	N. S Wales	4-6, Throgmort. Av.
W. A. Develop's.	⅝ 1	¾ 1	1 0	rts May 14 '96	1 0 0	50,000	—	49-53, Moorgate court
" G. Conces.	⅝ ⅝	11/16 13/16	1 0	2/6 Sept 16'96	1 0 0	£55,000	W. Austral	33, Old Broad st., EC
" Ex. & Fin.	4⅛ 4¼	4 1/16 4 3/16	1 0	rts Mar. 27 '93	1 0 0	200,000	"	54, "
" Gold Fields	5⅛ 5¼	5⅜ 5⅝	1 0	6/- July 30 '96	1 0 0	65,000	Coolgardie	28-29, S. Swithin s-ln
" Mines Devl.	¼ ½ pm	par ¼ pm	1 0	10/ Nov, 26 96	0 15 0	43,000	W. Austral	3, Princes Street
" Mining	4/6 5/6	4/ 5/	5/	7½d.Mar.27'96	0 5 0	320,000	"	257, Winchester Ho.
" Pioneer	⅞ 1⅛pm	⅞ 1⅛pm	1 0	10/ June 12 96	0 15 0	19,993	"	139, Cannon-street.
" Share Corp.	⅛dis⅛pm	par ¼ pm	1 0	—	0 10 0	200,000	"	28, St. Swithin's ln
" Venture	⅜ ⅝pm	⅜ ⅝pm	1 0	5/ Nov. 12 '96	0 15 0	—	"	3, Princes Street.
West Boulder	⅛ ⅜	7/16 9/16	—	—	—	—	—	
White Feather	1 9/16 1 11/16	1 9/16 1 11/16	1 0	—	1 0 0	60,000	Coolgardie	28 & 29, S. Swithin's ln
Woodstock	2 3/16 2 5/16	2 3/16 2 5/16	1 0	—	1 0 0	150,000	Krnghk NZ	6, Drapers Gardens.
Zeehan Montana S	par	par	1 0	-/8 Oct. 15, 96	1 0 0	66,000	Tasmania	11, Queen Victoria st
" "	—	—	1 0	-/6 Oct. 15, 96	0 12 6	12,000	"	"

EUROPEAN MINES.

Name	Closing Price, Dec. 22	Closing Price, Dec. 18	Am't. of Share	When last XD and Dividend	Called up Per Share	Amount of Stock or No. of Shares Issued	Situation of Mine	Office
Alamillos L	1⅛ 1¾	1½ 1¾	£ 2 0	2/- Sept 16 '96	2 0 0	35,000	Spain	6, Queen-street-place
Consett Ore	7⅛ 7⅜	7⅛ 7⅜	1 0	5/- July 94	1 0 0	55,200	Spain	19, Grey-st, N'castle.
Fortuna L	⅞ 1⅛	⅞ 1⅛	2 0	1/3 Sept 18 '96	2 0 0	25,000	Spain	"
Libiola C	1⅜ 1⅞	1⅜ 1⅞	5 0	2/-Sept. 30 '96	5 0 0	50,400	Italy	Dashwood Ho., E.C.
Linares L	6 6½	6 6½	3 0	10/ Sept 16 '96	3 0 0	14,998	Spain	6, Queen-street-place.
Mason & Barry C	2¼ 2⅜	2¼ 2⅜	5 0	£1 Dec 11'96	5 0 0	185,172	Portugal	87, Cannon-street.
Pestarena G	6/6 7/6	6/ 7/	3 0	—	3 0 0	67,809	Italy	6-7, Queen-street-pl.
Pontgibaud SL	—	—	20 0	11/8 Dec. 5, '96	20 0 0	14,000	Coueron	"
Rio Tinto C	24⅞ 25⅛	25 25¼	10 0	18/ Nov 3 '96	10 0 0	325,000	Spain	30, St. Swithin's-lane
" (1st Mrt. Bds)	102 104	102 104	100 0	4% Oct. 1, 96	100 0 0	£3600,000	"	"
Ripanji SQ	—	—	1 0	—	0 19 0	95,000	Servia	120, Bishopsgt-st, Wn
Tharsis C Sul	5⅞ 6⅛	6⅞ 6⅛	2 0	7/- Apr 29 '96	2 0 0	625,000	Spain	Glasgow.
West Prus Pre.pref	—	—	10 0	3% June 30 '96	10 0 0	1,500	Germany	Walbrook Ho., E.C.
" Prussian Pre.	—	—	10 0	8% June 30 '96	10 0 0	5,450	"	"
" Prussian Or.	—	—	1 0	4% Dec. 31, '95	10 0 0	14,050	"	"
Wohlfahrt L	—	—	1 0	3% Dec. '94	1 0 0	99,634	Prussia	17, Victoria-st., S.W
"	—	—	1 0	3% Dec. '94	0 10 0	9,090		"

NORTH AMERICAN MINES.

Name	Closing Price, Dec. 22	Closing Price, Dec. 18	Am't. of Share	When last XD and Dividend	Called up Per Share	Amount of Stock or No. of Shares Issued	Situation of Mine	Office
Alaska Mexican G	1⅛ 1⅜	1¼ 1⅛	$5	4 4-5d Oc. 28 96	$5	173,500	Alaska	30, St. Swithin's-ln.
" Treadwell G	4⅛ 4⅛	4⅛ 4⅜	$25	1/6 Oct. 28, '96	$25	200,000	"	" "
Anaconda C	5⅞ 6	5⅞ 6⅛	$25	5/1¼ Nov. 3 '96	$25	1,200,000	Montana	" "
Arizona (Pref.) Cu	53/ 53/6	53/6 53/9	4 0	1/6 July15,'96	4 0 0	158,920	Arizona	74, Geo.-st., Edinbor
" 6½ A Deben.	110 110½	110 111	100 0	6½% Nov.12'96	100 0 0	£135,300	"	
" 7% B Deben.	98	97	100 0	7% Nov. 12 '96	100 0 0	£181,300	"	
De Lamar GS	½ ⅜	9/6 10/6	1 0	1/- Nov. 12'96	1 0 0	400,000	Idaho	6, Drapers-gardens.
Doric G	4/ 5/	5/ 6/	5/	—	0 5 0	125,000	Colorado	Broad Street House.
Gen. M'g. Assoc.	5½ 6	5½ 6	5 10	12/-May 14 '96	5 10 0	27,469	C. Breton	Blomfield House.
Golden Feather G	⅛ ¼	⅛ ¼	1	—	1 0 0	180,000	California	8, Stephens Ct E.C
" Gate G	3/6 4/6	3/6 4/6	1	—	0 19 6	79,600	"	"
" Leaf G	/9 1/3	-/9 1/3	1 0	—	1 0 0	300,259	Montana	8, Draper's Gardens
Hall Mines	1 5/16 1 7/16	1⅜ 1⅛	1 0	—	1 0 0	250,000	Brit. Col.	1, Leadenhall St., EC
Harquahala G	1/ 2/	1/6 2/	1 0	-/6Nov.14,'94	1 0 0	300,000	Arizona	6, Draper's Gardens.
Holcomb Valley G	/6	/6	5/	—	0 5 0	540,000	California	14, Cornhill, E.C.
La Yesca GS	—	—	1 0	—	1 0 0	200,000	Mexico	20, Bucklersbury, EC
Montana GS	3/6 4/	3/6 4/	1 0	-/3 June 26'96	0 19 0	657,158	Montana	Gresham House, E.C
Palmarejo GS	/9 1/3	9/ 1/3	1 0	—	1 0 0	416,888	Mexico	32, Old Jewry, E.C.
PinosAltos(Df) GS	—	—	1 0	-/6 Mar.' 90	1 0 0	100,000	"	110, Cannon-street.
Richmond GSL	11/16 13/16	¾ ⅞	5 0	1/- Dec. 11 '96	5 0 0	54,000	Nevada	44, Coleman street.
Sierra Buttes G	⅛ ⅜	⅛ ⅜	2 0	-/3 Apr. 29 '96	2 0 0	122,500	California	138, Leadenhall-st.
" Plumas Eur. G	⅛ ⅜	⅛ ⅜	2 0	-/6 Oct. 29 '96	2 0 0	140,265	"	"
Springdale G	/3 /9	-/3 -/9	$1	-/2 Sep. 28, 9	$1	1,000,000	Colorado	20, Abchurch Lane
Twin Lake Placers	⅞ 1	1⅛ 1⅜	1 0	3/- Feb. '95	1 0 0	6,000		5, Lawrence P. Hl, E

SOUTH AND CENTRAL AMERICAN MINES.

Name	Closing Price, Dec. 22	Closing Price, Dec. 18	Am't. of Share	When last XD and Dividend	Called up Per Share	Amount of Stock or No. of Shares Issued	Situation of Mine	Office
Anglo-Chilian Pt N	8 8½	8 8½	10 0	7/- Dec. 11 96	10 0 0	35,000	Antofagst.	123, Bishops.-st W
" 4½ Rylst MB	88 91	88 91	100 0	4½% Nov 3 '96	100 0 0	£410,500	"	
Argen. Concessions	—	—	2/	—	0 2 0	150,000	S. Luis	3 & 5, Queen Street.
Caylloma S	¾ ⅞	15/16 1	2 0	1/- Apr. 94	2 0 0	125,000	Peru	52, Leadenhall stree
Colorado Nit. N	¾ 1¼	¾ 1¼	5 0	2/6Dec.16,'95	5 0 0	32,000	Chili	12, King-st., Liverp'l
Colombian Hy G	⅛ ¼	⅜ ½	1 0	1/- Jy 26, '95	1 0 0	75,000	Colombia	10, Blomfield-street
Copiapo C	1¼ 2	1⅝ 1⅞	2 0	2/ May 29, '96	2 0 0	100,000	Chili	DashwoodHouse, E.C
Darien "A" G	5⅛ 5⅜	5¼ 5⅝	1 0	—	1 0 0	49,553	Colombia	Manchester.
" "B"	6¾ 7¼	6¾ 7¼	1 0	x.nwApr 29'96	1 0 0	30,000	"	"
El Callao G	⅛ ⅜	⅛ ⅜	5 0	9½d. Feb. '94	5 0 0	157,600	Venezuela	8, Bishopsgt.-st, Wn
Frontino & B. G	1⅛ 1⅜	1 1/16 1 3/16	1 0	9d. Oct. 15 96	1 0 0	128,662	Colombia	184, Gresham House
Glenrock G	/9 1/3	/9 1/3	1 0	—	1 0 0	199,948	Arg. (& I.)	3-5, Queen-street, E.C
Guadalupe GS	3/6 5/	—	1 0	—	1 0 0	120,000	Honduras	1a, Union ct. Old Brd
Java'l G	—	—	2/-	—	0 2 0	105,260	Nicaragua	139, Cannon-street.
Lagunas N	2⅛ 2⅜	2⅛ 2⅜	5 0	15p.c. Dec. '94	5 0 0	120,000	Tarapaca	3, Gracechurch st.
Lautaro N	5¾ 6	5¾ 6	5 0	5/- June 26 '96	5 0 0	110,000	Chili	70, "
Liverpool N	8 8½	8 8½	5 0	10/-Nov, 26, 96	5 0 0	22,000	"	Liverpool.
London Nit. N	2 2⅛	2 2⅛	3 0	3/4½ Nov. '95	5 0 0	10,000	"	9, Gracechurch-st.
" Nit. (Pref.)	3⅜ 4	3⅜ 4	5 0	4% Nov. 28'95	5 0 0	22,000	"	"
New Julia N	1/16 3/16	1/16 3/16	—	—	—	—	—	
" Tamarugal N	⅛ ¼	⅛ ¼	1 10	1s. Dec. '94	1 10 0	130,000	Tarapaca	50, Lime-street, E.C
" 8% Cum Pref	⅜ ⅝	⅜ ½	1 10	8 p.c. Feb. '95	1 10 0	130,000	"	"
" 6 p.c. Debs	80 84	80 84	100 0	6 p.c. Feb. '96	100 0 0	£260,000	"	"
Nueva Esperanza	/6 1/	/6 1/	5/	—	0 5 0	160,000	Colombia	5, Copthall Bu'ld'ngs
Oficina	1 1/16 1 3/16	1 1/16 1 3/16	1 0	—	1 0 0	—	N. Colom.	105, London Wall.
Pac. & Jazpampa N	11/16 13/16	11/16 13/16	5 0	4/- May, '95	5 0 0	72,000	Tarapaca	3, Gracechurch-st.
Phœnix	/9 1/3	-/9 1/3	10/-	—	0 8 0	400,000	S. Luis	3 & 5, Queen Street.
Rosario N	4¾ 5¼	4¾ 5¼	5 0	3/- Aug.13 '96	5 0 0	120,000	Chili	7½ OldBroad-street
" (5% Deb.)	102 105	102 105	100 0	5% Oct. 1 '96	100 0 0	£475,000	"	
" Hu'r'Db Scrp	103 106	103 106	100 0	5% July 1 '96	100 0 0	£200,000	"	"
St. John del Rey G	11/16 13/16	11/16 13/16	1 0	x.rtsNov 19 '95	1 0 0	327,650	Brazil	Finsby.Ho., Blmf'd
San Donato N	¾ 1¼	¾ 1¼	5 0	2/6 May 24 '95	5 0 0	38,000	Chili	12, King-st., Liverp
" Jorge N	4⅝ 5	4⅝ 5	5 0	5/ Oct. 15 '96	5 0 0	75,000	"	9, Gracechurch-st
" Pablo N	1⅛ 1⅜	1⅛ 1⅜	5 0	5/-Oct. 30 '95	5 0 0	38,000	"	
" Sebastian N	⅞ 1	⅞ 1	5 0	2/ July 15 '96	5 0 0	29,000	"	Dashwood House
Santa Barbara G	⅛ 5/16	⅛ ⅜	10/	1/3 Dec. '86	0 10 0	60,000	Brazil	Liverpool
" Elena N	⅛ ⅜	⅛ ⅜	5 0	5/-Nov. 15 '94	5 0 0	22,000	Tarapaca	3, Gracechurch-st.
" Rita N	3⅛ 4	3⅛ 4	5 0	10/May 29 '96	5 0 0	29,000	Chili	DashwoodHouse, E.
Tolima "A" S	5 5⅛	5 5⅜	5 0	5/-Mar. 12 '96	5 0 0	14,000	"	18, Finsbury-circus
" "B" S	3¾ 4¼	3¾ 4¼	5 0	5/- Mar 12 '96	5 0 0	6,000	"	

CORRESPONDENCE.

We wish it to be understood that we do not hold ourselves responsible for, and do not necessarily endorse, the opinions of correspondents. All communications must be accompanied by the names and addresses of the senders, though these need not necessarily be published.

CORNISH MINING AS VIEWED FROM ABROAD.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—This subject has supplied matter for your columns for a number of years, and yet it seems to me the keynote of the remedy for the existing stagnation that has only recently been sounded. I refer to the speech of a shareholder in the general meeting of Dolcoath adventurers, as reported in your columns, where he said in effect it was useless to go on complaining of the low price of tin, and hoping for its rise. The only true method was to meet the difficulty by devising and employing cheaper and more expeditious methods of raising and returning the mineral; in fact, instead of saying what might have been, and prognosticating a rise in price, which may never come, to face the matter as it stands and rise above the difficulty, and unless this is done I fear Cornish mining will have little to commend itself to the investor.

That this is a matter for the serious consideration of every mine manager none will deny, and my only excuse for occupying your columns is the conviction that it is the duty of everyone who has the interest of the old country at heart to endeavour to ameliorate the present condition of its staple industry, and the thousands dependent upon it, and actuated solely by this conviction I trust I may be pardoned for plain speaking.

Although Cornwall is supposed to be a Liberal county, in the matter of its mining there can scarcely be a question as to its Conservative nature. "What did for my grandfather will do for me" seems to be the prevailing motto, and I presume to this idea is due the primitive methods one meets with on visiting the mines of the county. The same old poppet heads, the same old tail-pin skips, the same old system of transport from shaft to stamps are almost everywhere apparent. Let these be superseded by such time and labour-saving appliances as self-tipping skips and mechanical haulage, and I venture to predict a great saving will be effected. Then underground have less handling of stuff by introducing either "tip plats" or tip direct from tram wagon to skip. In fact, avoid handling the stuff as much as possible, and utilise machinery and gravitation instead of so much hand labour. Thus the stuff from a stope should fall into shoots or tip skulls, from thence into the tram wagon. Then upon arrival at the shaft, if skips are used, it should either be tipped direct into the skip or into the tip plat, and go from there into the skip by a shoot. At surface the headgear should be so arranged that the skip automatically empties itself over a screen which would separate the rough from the fine; the rough would fall on to a floor and could there be roughly picked, and then the ore could be passed through a stone-breaker, and in its turn fall into a bin or hutch. These hutches should be fitted with shoots and sliding doors, and the train line laid along in front of them. Mechanical haulage, such as an endless wire rope, should then be applied to the train wagons to take them to and from the mill. On the headgear provision should be made for tipping waste dirt, and a separate hutch made for it. By this method the stuff would require only one handling, and that only the rough portion, from the stope to the mill.

Then, again, the system of accounts seems a very rule-of-thumb matter. Let the cost of mining—*i.e.*, stoping, driving, or sinking—be distinctly shown, as well as the cost of tramming and hoisting, and then the cost of milling or dressing the ore at per ton. All of these should be separate, and then should be itemised into such as explosives, timber, lights, oil, steel, and general hardware, supervision, &c., at so much per fathom or ton, the former in sinking or driving, and the latter in stoping. A manager could then at a glance see where he could economise, and where afford to spend a little more, &c., and could also better judge of the effectiveness of his stamps and its officials.

Then, again, few would care to deny that "one mine one manager" is a safe doctrine, and I would venture to suggest that to this should be added, leave sentiment out of business. Because a man or his father or grandfather has been manager of a mine for 20 years, it is no argument that he is the most capable man to manage it, but rather the contrary, as in these progressive 'days he is most likely to have got into the same old groove that his ancestors worked in. "Let all have a try, and the best man win," is not a bad rule to work our mines by. Cornish mines apparently follow pretty much the law of entail so far as their management goes.

Another suggestion is, do not starve your workmen in order to increase your profit or lessen your loss. Nothing is gained in the long run by such a policy. No man can do a fair days' work unless he has sufficient food, and he cannot have this on 50s. per month.

In conclusion, may I suggest that no manager or agent of a mine be allowed to speculate in shares of the mine he is employed at.

I feel confident that a brighter future is in store for Cornwall if "one and all" will put their shoulder to the wheel and adopt means to lessen the cost of the produce of her staple industry.—I am, Sir, yours truly, MINER.

South Africa, November 25.

MODERN PROCESSES.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—King Solomon said in his day that "there was nothing new under the sun." This is, perhaps, true to a greater extent than many are aware of, but a little thought will enable us to see that much of what we know and do to-day was known and practised in those days, not, perhaps, quite as we know and treat now-a-days, but still with a wonderful amount of intelligence and ingenuity for those past dark ages. Very many things we think new and novel were known to them in germ and outline. In mining gold, silver, copper, and precious stones practice has done much to perfect what was then done, but the progress is not commensurate with the ages it has taken to accomplish all this, and it is to be regretted that mankind is unwilling or, at best, slow to learn or take advantage of what new ideas chemistry reveals to us, new only in the sense that we never heard of them before but as old in chemical science as any other of Nature's laws, for they, like Divine truths, prove one framer and birthday co-existent and eternal alike. When Harvey discovered the circulation of the blood, that vital fluid had flowed in the human body from the time that God breathed into Adam the breath of life and man became a living soul. When Galileo discovered the planets and their evolution these had revolved in their proper order ever since God created them and pronounced them "very good." It likewise holds good of the discoveries of Dalton, Wall, Sir A. Cooper, Black, Faraday, and a host of others, bright and illustrious characters of their day. To-day we build public laboratories, technical schools, and kindred institutions to teach what the past worthies have discovered, with certain deductions which we term science, to a certain point and then stop. It is just so far, and no further. When I hear a man say a lot of fine things called a science lecture, I always think it very nice to hear them, but it is something like the broadcloth of which our best clothes are made, when—

"The poor sheep and silk worm wore
That very clothing long before."

Now, when any man steps out of the ordinary way with a fresh discovery, people, and especially "the learned," rise up in indignation, and say, "it cannot be," or "it is not in accord with what we teach in our schools." In your last two impressions, I see a Mr. Donald Clark, of Australia, says he has tried, without success, the Zymean metallurgy, and Major Tweedie has given a very fitting reply. Whenever I hear a man say I have tried the Zymean metallurgy and failed, he may be believed, as there are men who fail in some very simple things, but when a man says "it is of no use," let that be received with caution. A man may err in the Zymean process, as there are many points to mind in order to successful working, but in that case the fault is in the artist and not in the system of treatment. I can, perhaps, explain what I mean by telling your readers of an electro-chemical works near to where I live. This works is calculated to decompose salt in solution to make 25 tons of bleach per week with a corresponding proportion of alkali—caustic soda. Now, every chemist knows what it is to decompose water into its elements, H and O, by the electric current. Salt dissolved in the water is also decomposed at same time giving no chlorine, which unites with the H, as hydrochloric acid and sodium with oxygen as soda. Briefly, then, nothing need be plainer. But fancy, instead of 25 tons, only a little over so many hundredweights of bleach are made and no alkali. Who is in fault? Not the process, every chemist will say, but the artist, and so it is in the Zymean metallury; you must study the ore to be treated, the ingredients used, the proper temperature, degrees of strength, time required, &c., and then you will succeed, not only in this, but in any other system of treatment if the working of it is worth the cost.—Yours very truly,

St. Helens, Lancashire. JAS. W. WORSEY.

THE RECENT EARTHQUAKE.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—Will you allow me to ask the help of your readers in obtaining materials for a memoir on the recent earthquake.

My object in this memoir is to trace as accurately as possible the boundary of the area over which the shock was felt, or the accompanying sound heard, and to draw lines on a map through all places at which the shock was of approximately the same intensity. It would be of great service to know simply the names of as many places as possible where the shock was felt, or the accompanying sound heard. Still more useful would it be to have answers to any of the questions printed below, especially to those numbered 5 and 6. I shall be most glad and thankful to receive accounts from any places whatever, and I may add that no careful account, however scanty the information given, can fail to possess some value, or to help in throwing light on the nature and origin of the shock.

1.—Name of the place where the earthquake was observed.

2.—Time at which it was felt, if possible, to the nearest minute.

3.—(*a*) What was the nature of the shock? (*b*) Did the shock consist of two distinct parts, separated by an interval of a few seconds? (*c*) If so, which part was the stronger, and how long was the interval between the two parts?

4.—How many seconds did the shock last, not including the accompanying sound?

5.—Was the shock strong enough (*a*) to make doors, windows, fire-irons, crockery, &c.. rattle; (*b*) to cause the chair, &c., on which the observer was resting to be perceptibly raised or moved; (*c*) to make chandeliers, pictures, &c., swing, or to stop clocks?

6.—(*a*) Was the shock accompanied by any unusual rumbling sound; and, if so, what did it resemble? (*b*) Did the beginning of the sound precede, coincide with, or follow, the beginning of the shock, and by how many seconds? (*c*) Did the end of the sound precede, coincide with, or follow the end of the shock, and by how many seconds?—Yours obediently,

CHARLES DAVISON, Sc.D., F.G.S.,
Secretary to the British Association Seismological Investigation Committee.

373, *Gillott-road, Birmingham, December* 19.

THE ZYMEAN PROCESS.

TO THE EDITOR OF "THE MINING JOURNAL."

SIR,—Your correspondent, "H. B. F.," makes an extraordinary charge against me of attempting to gull the public. Feeling, as everyone must feel, how crude the processes for extraction of metals from their ores have been, resulting in the loss of, probably, one-half the gold in a gold-producing ore, I have brought to notice for consideration a new process for the extraction of metals from their ores, which I myself, after the best investigation I have been able to give it, believe in.

I have simply drawn attention to this in the hope that those interested in such matters would, in their own interests, give it their best attention; in fact, they have pointedly been asked to try it themselves, and satisfy themselves as to its being right or wrong. There is no gulling or attempting to gull in this.

The principle of the process appears to me to be both simple and right. Everybody knows the affinity of chlorine for metals, and that chlorine is used in various forms for gold extraction. Admiral Selwyn claims to produce nascent chlorine in a saturated solution of salt and water (when sulphur is present) in large quantity, and at a very low price by the use of di-chloride of sulphur.

The proofs amongst others I venture to give in support of this are that during the process large quantities of HCl gas are given off. If HCl is made there must first be chlorine made to make it, as the small quantity of di-chloride of sulphur is quite inadequate to account for the large quantity of HCl given off. Again, when the dichloride in small quantity only is added to the cold water solution, in a few minutes the temperature rises to a considerable height; surely this is proof that some chemical action is taking place. Lastly, the metals are ultimately found in the solution as chlorides.

As "H. B. F." shows such a strong animus in his letter it will only, I think, be reasonable if I ask who and what he is, and whether he has any interest, directly or indirectly, in other metal extraction processes?

M. TWEEDIE, Major-General.

December 21.

THE SHEBA GOLD MINING COMPANY.—A dividend of 1s. per share, free of income tax, will be paid on January 1. The register of shareholders will be closed from December 17 to 31.

PROVINCIAL SHARE MARKETS.

THE CORNISH MINE SHARE MARKET.

Mr. MICHAEL WILLIAMS BAWDEN, Mining and Assaying Offices, Liskeard, Cornwall, writes December 22:—The Mining Market is practically idle, and shows a general stagnation on the continued reduction of the tin standard. Prices nominal. Quotations:—Basset United (Limited), 16s. to 17s.; ditto (5s. paid), 4s. to 4s. 6d.; Blue Hills, 1s. 6d. to 2s.; Carn Brea United (Limited), 1s. to 1s. 6d.; Devon Consols, 17s. to 18s.; Dolcoath (Limited), 15s. 6d. to 16s. 6d.; ditto (10s. paid), 6s. to 6s. 3d.; East Pool, 14s. to 15s.; Killifreth (Limited), 1s. 6d. to 2s.; Levant, 3¼ to 3⅜; West Kitty, 2¼ to 2⅜; Wheal Grenville, 3¾ to 4; Wheal Kitty, 1s. 6d. to 2s.; Wheal Metal, 1s. 6d. to 2s.

MANCHESTER.

Messrs. JOSEPH R. and W. P. BAINES, Stock and Share Brokers, Queen's Chambers, 7, Market-street, write December 22 (noon):—Having to report so early this week for publication, there is so little on which to make comment that our note will necessarily be brief. There has been a sensation in the time (short though it is), and that is provided by a movement in Americans consequent on the "Cameron resolution." The spasm created by this flutter did not assume the acuteness here that it did in New York; that is, the fluctuations were not so wide here as they were on the other side. With characteristic precipitation on the passing of the "resolution" things went "panicky" in Wall-street, but on receipt of the poor figures this side kept figures much above the other's low parity, and later things mended in tone (thanks, perhaps, to Mr. Olney's pronouncement), bringing figures back to what they had stood at before the "squirm." The anticipations (based on the traffics of the half year) regarding home railway dividends keep prices in this market firm to better, and, bar political trouble, this section looks like mending all round. Disregarding general classes, owing to paucity of business therein, except for a somewhat smart rise on Coats to-day (begun yesterday), we leave details till the holidays are over.

LATER (4 P.M.).—Home rails again better to-day, especially the "heavies." Americans improved, but very little business done. African mines give a much better tone than of late.

SCOTCH MINING AND INDUSTRIAL COMPANIES SHARE MARKETS.

STIRLING.—Mr. J. GRANT MACLEAN, stockbroker and ironbroker (December 22) writes:—Since last report (December 17) there has been little business doing, owing to the approach of the Christmas holidays, but the tone of the market is healthier.

In shares of coal, iron, and steel companies prices are steady. Steel Company shares are about 6¼, and inclined to improve on favourable trade reports. Cairntable Gas Coal 7½, Marbella 24s, and Stewart and Clydesdale 13¾.

In shares of copper concerns there is not much alteration to notice. Tinto and Tharsis are firm. Arizona touched 54s. Central Chili are at 6s. 3d.

In shares of gold and silver mines a fair amount of business has been done. Indian shares show a general improvement. It is proposed to double the capitals of the Mysore and Champion Reef. African Recovery declined to 8s. on the proposal to reconstruct the company in £1 shares with 15s. paid. Chartered have touched 51s. 3d.; Consolidated, 8¾; East Rand, 77s. 6d.; and Randfontein, 45s. 6d. Abbott's are at 2s. 9d.; Achilles, 1s. 9d.; Bantjes, 41s. 3d.; Broken Hill Proprietary, 50s.; Charterland, 10s.; Carrington, 2s.; Cripple Creek Pioneer, 31s.; Croydon Consols, 10s. 9d.; Golden Arrow, 13s. 3d.; Gleeson's, 15s. 6d.; Ginsberg, 35s.; Golden Gate, 9d.; Hauraki Associated, 3s.; Hainault, 13s. 3d.; Hannan's Star, 17s. 6d.; Hannan's Proprietary, 17s. 6d.; Hit or Miss, 15s. 3d.; Hall Mines, 30s.; Joker, 7s.; Lisbon, 5s. 3d.; Langlaagte Royal, 13s. 9d.; La Plata, 9d.; Miner's Dream, 7s. 6d.; Mount Magnet, 6s.; Murchison Gift, 6s. 3d.; Newfoundland Colonisation, 1s. 9d.; North Boulder, 22s. 6d.; New African, 42s. 6d.; Oficina, 23s. 9d; Preece's Point, 3s. 6d.; Porges, 25s.; Pahang Corporation, 7s.; Pearl Central, 20s.; Princess Royal, 3s. 3d.; Rhodesian Mining and Finance (fully paid), 17s. 6d.; Robinson Randfontein, 26s. 3d.; Sunburst, 1s. 3d.; True Blue, 8s. 9d.; United Rhodesia, 10s. 6d.; Victory, 2s.; Violet, 16s. 6d.; West Australian Mining, 4s. 6d.; and White Feather Main Reef, 7s.

In shares of miscellaneous companies prices are steady. In Oil companies Broxburn are at 9⅛, Pumpherston 6⅜, and Youngs 25s. 6d. Cheshire Alkali and Salt Preference are at 27s. 6d., Dorman, Long, and Co., 81s. 3d., London and Glasgow Engineering 35s., Lawe's Chemical 6 Nobel's Explosives 19⅛, and Roburite Explosives 57s. 6d.

EDINBURGH.

Messrs. THOMAS MILLER and SONS, Stock and Share Brokers, 69, Hanover-street, Edinburgh, report as follows under date of December 22:—There have been no important changes in home railways since the date of last week's report. Business in all departments has been very quiet, as it generally is at this season of the year. In insurance shares the only change worth noting is an advance in North British and Mercantiles from 37 9-16 to 38. In Scottish banks a small business has been done, but quotations of most of the stocks are unaltered. Clydesdale shares have receded from 21¼ to 21⅛, and Union from 23⅛ to 22⅝. Coal and iron shares have been inactive. Arizona Copper shares have fallen from 53s. 9d. to 53s. 3d., Broken Hill from 49s. 6d. to 49s., Broxburn Oil from 9⅛ to 9⅛, Young's Paraffin from 27s. to 24s. 9d. Distillers have risen 1s. 3d., Edinburgh United Breweries 1s. 3d. J. and P. Coats have changed from 62 9-16 to 63¼.

HANNAN'S OROYA GOLD MINING COMPANY (W.A.) (LIMITED).

The second ordinary general meeting of the shareholders in Hannan's Oroya Gold Mining Company (W.A.) (Limited) was held at Winchester House, E.C., on Tuesday, Mr. O. Stange presiding.—In moving the adoption of the report and accounts the Chairman said by the time their machinery was ready to start crushing, which would be in a few months, they hoped to have a sufficient supply of water necessary for all purposes. All the labour had been concentrated on the northern reef in order to put the property in a producing state as soon as possible. When this had been accomplished other parts of the mine would be worked with the view of discovering the lodes that were believed to exist besides the one already found.—Mr. Wilcox seconded the motion, and it was agreed to.

ARROW PROPRIETARY GOLD MINES (W.A.) (LIMITED).

The second ordinary general meeting of the shareholders in the Arrow Proprietary Gold Mines (W.A.) (Limited) was held on Tuesday, at Winchester House, when Mr. R. V. Barrow, who presided, in moving the adoption of the report and accounts, stated that unfortunately, owing to several mishaps, the machinery had not yet been able to commence crushing. However, when it did commence they confidently expected that the mine would not only be self-supporting, but would also be the means of paying the shareholders regular and satisfactory dividends. The reef was reported to be 24 feet in width, while the value of it was known to be considerable.—Mr. J. L. Strain seconded the resolution, and stated that he was on the eve of starting for West Australia, when he would visit the property and form his opinion of the value of it.—The resolution was carried *nem. con.*

THE DUTY OF CORNISH PUMPING ENGINES.*

(*Concluded from page* 1594.)

Many attempts have been made to compare the duty of Cornish engines with those of another type, and very careful trials instituted to show their superiority over the Cornish, but trials got up by engine makers to show extraordinary results attained by some new engine is hardly a correct way to form a basis as to what the same engine would do working under normal conditions. Before these trials commence everything is got in perfect order. They last for a few hours only. Great care and attention is paid by the experts employed to conduct them, and their one object is to show a result not previously recorded, and can only be kept up for a short space of time. The manner of stoking in particular is as perfect as can be. Mr. T. I. Branwell said in a lecture on the Steam Engine to science teachers at South Kensington :—

"With respect to the stoking on these trial occasions, the stoking is done by men, some of whom are paid several hundreds a year. It is done by a hand fire shovel, more like a banker's scoop than an ordinary shovel. The coal is broken into bits about the size of a walnut. The fire door is opened about once in every two minutes (which you will find very wrong, according to Tredgold, and so it would be if the men were not trained to do it by sleight of hand so dexterous that it is hardly possible to see the operation performed); and in that way there is kept up an absolute uniformity of combustion, a uniformity so great that during the five hours which the trial sometimes lasts, I will undertake to say the pressure gauge does not vary one-sixth of a pound. So accurate is the firing that whereas the engine would blow off with 80 lbs., and thus waste steam, which would spoil all the competitors' chance at 77½ lbs., the engine would not run against the weight, therefore the stoker's margin of possible working in these engines lies within 2½ lbs.

"Such accuracy you cannot hope to attain in daily work."

The above remarks referred to trials on portable engines, and there is no doubt in my mind that the system of stoking is well considered and carried out in pumping engine trials. Take, for instance, a trial conducted at the West Middlesex Water Works, on a vertical triple expansion high duty pumping engine, by Professor Unwin, acting on instructions from the makers, everything being in readiness, the work begins and the gross weight of coal was :—

		11,299 lbs.
less cinders found at end of trial, and reckoned as unburned coal		82½
Total coal used...		11,216½ lbs.

The duty is then calculated on this latter quantity of fuel. Take another instance : A trial by Mr. O. Chadwick on a compound high duty engine at West Middlesex. The trial lasted 24 hours, and the gross weight of fuel consumed was :— 10,989 lbs.

Ashes weighed	232 lbs.	
Clinker	412 lbs.	
Together	685 lbs.	
Hence net fuel burned		10,343 lbs.
Gross pounds of coal per pump h.-p. per hour...		2·03
Net fuel burned per pump h.-p. per hour ...		1·91
Duty		116 mills.

This duty is again reckoned on the fuel after all waste is deducted now to show the absurdity of reckoning duty in this way if the duty had been reckoned on the quantity of fuel put in the fire, and no deductions made for worthless rubbish such as ashes and clinkers, the duty would have been 109,000,000, or 6 per cent. less.

It may do to reckon duty this way from a manufacturer's point of view, but an engine owner knows that ashes and clinker are not of the same value as coal when it is raked out of the furnace.

The fuel used in trials of this sort you may depend is of selected quality. The amount of waste got by Professor Unwin was only 2·2 per cent., and that by Mr. Chadwick 5·8 per cent. Mr. Chadwick says the coal was wet, and, considering the large amount of ash, cannot be said to have been of very excellent quality.

Just another case to show the result of a competitive trial of a new triple expansion Worthington engine and pump against four Cornish engines and boilers at the Grand Junction Water Works. The Worthington engine steamed from a Babcox and Willcox boiler at a pressure of 120 lbs. per square inch. The feed water was passed from the hot well at 100° Fah. through an economiser in the boiler at 140°. Attached to the boiler also was a Meldrum blower, the fuel used being a mixture of coke and breeze. The Cornish engines steamed from Cornish boilers at a pressure of 38 lbs. per square inch. The feed water passed direct from the hot well to the boilers at 90° Fah. No economiser nor Meldrum blower were attached to these boilers. In a table published as a result of this competition, which lasted seven days, the duty of the Worthington averaged 82·5 millions and the Cornish 71·4 millions. Looking at these figures a novice would suppose that the Worthington engine was 15·5 per cent. superior to the Cornish, but take it in a commonsense point of view, and it will be seen that by the aid of the economiser the feed water was raised from 100° to 140°, resulting in a saving of fuel of 4·5 per cent., thus reducing this supposed economy to 9 per cent., to say nothing of what is gained by the use of a Meldrum furnace for burning coke and breeze. Now, suppose we try an imaginery experiment for a moment on these engines, and take away the economiser from the Worthington. The duty would be 4·5 per cent. less, or 78·8 millions. We will now attach it to the Cornish boilers; the duty of the Cornish engines would, therefore, be increased to 74·6 millions, the difference in the two would be 5·4 per cent. in favour of the Worthington with the Meldrum blower still attached to the boiler of this engine helping to consume the coke and breeze. I believe the patentees claim some considerable advantage in the use of this blower for this kind of fuel. One very important thing is omitted in the published account of this competitive trial. That is the age of the Cornish engines, which I find range from 20 to 45 years, and when this Worthington gets 45 years old it will be interesting to those who live long enough to see what original part of it is left, how the duty then compares with the result of these trials.

All trials that take place are not printed and circulated, because engine owners who have nothing to gain by it do not trouble. However, I am indebted to Mr. Rich, the manager of Rio Tinto Mines, Spain, in furnishing me with a detailed account of a trial of a Cornish pumping engine, and which is a *fac simile* of one I designed and erected on the Tincroft mines. Of course the pump arrangement is of a different design for their respective requirements. You will notice in the calculation that ashes and clinker amounting to 3·4 per cent. are not deducted. If they were, the duty would show 115·3. There is no feed heater or economiser attached. The duty is reckoned on the total vertical height of the pump, and not by a height corresponding to that indicated by a gauge on the pump. The trial was conducted by the officials and engineers on the mine for the information of the owners only, with the following result :—

Cornish pumping engine.—Rio Tinto.

Dimensions.

Cylinder, 70 inch, stroke 10 feet; air pump, 34 inch, stroke 4 feet 9 inches; feed pump, 7 inch, stroke 2 feet 5½ inches; plunger, 26 inches, stroke 9 feet (full stroke between catches 9 feet 1¾ inches). Valves, four beat clear diameter through seat, 36 inches; valve box passages, 36 inches; pipes to air vessel, 35 inches diameter; rising main, 24 inches diameter, length from top valve to top of column 441 feet 6 inches; vertical height from water level to top of column, 196 feet; boilers, 6 feet diameter, 30 feet long; tube, 3 feet 9 inches diameter with eight Galloway tubes; fire bars, 5 feet 6 inches long; grate area, 21·1 square feet.

* A Paper read by Captain W. Trestrail, Assoc.M.Inst.C.E. before the Mining Association and Institute of Cornwall.

Results of Official Trial, October 27 to November 3, 1894.

Time of trial, 168 hours; time actually working, 167 hours 52 minutes.

Total number of strokes ...	102,279	
„ coal consumed	78,484·5	lbs.
„ feed pumped	830,561·2	lbs.
Sp. Gr. of water	1·0466	
Mean of gauges on boiler ...	64	lbs. per sq. inch.
„ vacuum gauge	27·82	inches.
Temperature of infection water	67°	F.
Temperature of hot well ...	112°	F.
„ of feed water ...	109°	F.
Total ashes and clinker (not deducted)...	2,712	lbs.
Mean strokes per minute ...	10·154	
Cubic metres pumped per hour	1,027·0515	
Total foot pounds per stroke	761,461·4275	
Total foot pounds during trial	77,881,513,343	
Cubic inches per stroke (full capacity)	103,907·88	
Cubic inches net after deducting 1 per cent. slip ...	102,868·8012	
Cubic inches per lb. (standard)	27·7123	
Lbs. of water lifted per stroke	3.885 0073	
Cubic inches per cubic metre	61,027·0515	
Total cubic metres lifted during trial	172,404·17	
Effective horse power ...	234·317	
Duty	111,139·518	
Mean of 8 cards		
Indicated foot lbs. per stroke	941,375·5097	
„ „ „ during trial	96,282,943,756·606	
Indicated horse power ...	289·658	
Mechanical efficiency... ...	80·88	
Coal burnt per hour, lbs. ...	467·559	
„ „ I.H.P. per hour...	1·6141	
„ „ E.H.P. „ ...	1·9954	
Feed water evaporated per hour, lbs.	4,947·91	
Feed water evaporated per I.H.P. per hour	17·082	
Feed water evaporated per E.H.P. per hour	21·112	
Feed water evaporated per lb. of coal...	10·582	

From a diagram taken during the trial I find the steam is cut off at slightly over one-fifth from the commencement of stroke, and reviewing the result of this trial with those already referred to it is plain that this engine did the best duty.

There are several good engines in Cornwall not reported by Lean and I will give particulars of two good engines working under difficult circumstances, although doing a fair duty. The Tincroft 70 inch cylinder engine was erected new and set to work in December, 1890.

It was connected to the old pitwork, but since then the greater part of the old pitwork has been replaced by new, and the remainder overhauled. The shaft is rather crooked, but not so bad as some in the district. The duty performed is 74 millions at 4·21 strokes per minute. Steam pressure in boilers 40 lbs. per square inch.

Owing to some of the rods being old, and a long run of flat rods underground (which is not included in the duty) a high rate of expansion cannot be accomplished, and the steam is cut off at ·372 from the commencement of stroke.

The Carn Brea 90 inch cylinder engine was erected with new pump work complete for 2214 feet deep and set to work in July, 1893. This shaft is also crooked, and the duty is 62,000,000 at 2·6 strokes per minute. Steam pressure in boilers 44 lbs. per square inch. The stroke is 10 feet and steam cut off at 2·33 from the commencement of stroke. There are no economisers or feed heaters attached to the boiler of these engines. The quality of the fuel is good for the price—viz., 12s. 11d. per ton delivered on the mine, but naturally not of the high standard of the selected coals used for experiments. The ashes and clinker average for the two engines is 11 per cent. of the coal consumed.

Engines are generally compared by the duty, but unless the quality and price of the fuel is also considered it does not give a correct idea, and to an engine owner or company it does not matter much whether their engines show a high duty in that "phrase," it is a question as to cost per "duty" performed. It is possible with ample boiler power to burn an inferior coal, which would show a lesser duty, but would be cheaper than a superior coal costing more money and showing a higher duty. In this way it is possible for a good engine to be working cheaper showing less duty than a moderate engine showing good duty at a greater cost per million and burning a superior coal.

Take a case as pointed out by Mr. A. Fraser in a paper before the Society of Engineers:—"The most probable cause for the seeming reduction in the rate of duty is the use of inferior coal, which is found to be more economical in proportion than fuel of the best quality; of course, where the boilers and grate surface are adapted for the purpose of slow combustion. This fact has been proved by experiment at the water works at Kew Bridge, where a 90 inch cylinder Cornish engine was lately worked for several days from five boilers, burning the best coal that could be procured, costing about 25s. per ton, when the duty performed was ascertained to be 105,000,000; the average duty with small coal costing 10s. 9d. per ton (which is the fuel in ordinary use) being 62,000,000 to 65,000,000. By using the inferior coal a saving of about 27 per cent. in the cost of fuel is effected.

I find that the caloric duty of coal does not proceed on a direct ratio with its cost, and this is an important fact.

Having traced the performance of the Cornish engine as reported from the commencement to the present time, and also drawn fair comparisons with others, I would submit that the superiority claimed for other pumping engines are not established. I am also not aware of any other printed monthly statement issued by an independent medium except "Lean's Reporter," and for years past engineers throughout the country have thought fit to take the duty as presented on this reporter as a fair basis to judge what the engines in Cornwall were doing, and these gentlemen have not been backward in expressing their views rather strongly, but at the same time they very forcibly claim something very good for themselves, without pointing out the conditions others have to contend with. One moment's reflection will convince you on looking at those plans (which Messrs. Henderson and Son kindly lent me), that in crooked shafts you cannot get the same pump efficiency as from a vertical shaft. And, moreover, when an engine is first erected on a mine the power is much in excess, or ought to be, of the load to be lifted, and the expansive working can be carried to a great extent and a good duty performed, provided fair quality coal is used; but as the load increases by the increased depth of the mine, the engines, with the boilers, naturally become weaker by age and wear. Hence, when economy is most desirable, it is least attainable.

If those interested in pumping machinery in mining districts, whether coal or metalliferous, would adopt some standard system of independent reporting, and put all pumping engines practically on the same basis for calculating the duty and total cost for fuel per million, details could be easily settled, and it would be most interesting and useful not only to engineers, but more particularly to companies and owners of engines, to serve them as a guide in future to select the best engine for that particular purpose for which it is required. If this paper will serve the purpose in influencing the institutes interested more or less in this important matter, and induce them to publish the results in a simple but scientific form, I am sure the small cost and labour attending it will be amply repaid in true economy being secured that might otherwise be lost, and I should be delighted to render any little assistance in my power to help forward what I would venture to say to be well worth the best efforts of all interested.

MINING AT GREAT DEPTHS.*

By BENNETT H. BROUGH, Assoc. R.M.S., F.I.C., F.G.S.

(*Continued from page* 1637.)

2.—The Increase in Pressure.

As mines become deeper, the pressure of the strata will increase, and heavier timbering will, perhaps, be required. No increase of timbering due to the depth has, however, yet been observed. Nevertheless, existing methods of timbering may in the future require modification. This has already been the case at the Comstock Mines in Nevada, which were undoubtedly the best timbered in the world. There the old post and lintel system was replaced by the square set system, introduced in 1860 by Philip Deidesheimer. Although of great service in its day, and even now in general use in the Lake Superior iron ore mines, the latter system is likely to become less useful in future, mainly owing to the difficulty of obtaining timbers 24 inches by 28 inches. Most California miners use very heavy timbers in large stopes, mostly round, and often 30 inches in diameter. With the use of these immense logs, filling has been neglected to the detriment of the mines. In view of the increasing scarcity of large timber we may expect that, in the future of deep mining, methods based upon the use of bearing arches of iron and steel, or of rock and masonry, will take the place of timber in mining deposits of large size.

The effect of the increase of atmospheric pressure on the men does not require serious consideration. Experience shows that men can work at a depth of 50 feet in water—that is, at a pressure of 37½ lbs. to the square inch, which is equivalent to a mine depth of much more than 20,000 feet below sea level. On the other hand, the effect on machinery driven by compressed air is to diminish the efficiency, the efficiency being inversely proportional to the barometric pressure.

3.—Increase in Temperature.

The most important element needing consideration in determining the limits of deep mining is the increase of temperature. As far back as the year 1664 observations on underground temperature were made by Athanasius Kircher; in 1740 Genssane found an increase of 1° Fah. per 50 feet in the mines of Alsace; and in 1803 Daubuisson found a somewhat greater increase in the mines of Saxony and France. In the 1830 Reich cited 35 authors who had previously dealt with the subject of underground temperature. Between that date and 1858 researches were made in the Cornish mines by John Forbes, Were Fox, and W. Jory Henwood. In 1871 the Royal Coal Commission made a special enquiry into the subject, and in 1867 a committee of the British Association was appointed for the same purpose. Twenty-one elaborate reports have been presented, and the work is not yet complete.

The influence of seasonal changes of temperature extends downwards to a limited depth, which varies in different latitudes. This zone of invariable temperature is higher in the equatorial regions than in temperate ones. In this country no annual variation of temperature is shown at a depth of 70 feet, whilst a shaft at Yakutsk, in North Siberia, shows that the soil is permanently frozen to a depth of 700 feet. Below the zone of constant temperature, the temperature increases with the depth, even in frozen ground, the average rate of increase being thought to amount to 1° Fahrenheit for every 50 or 60 feet of descent. Some of the results published differ widely from this average, and there can be no doubt that in many instances sufficient precautions have not been taken to secure accuracy. The accuracy of the results may be vitiated in boreholes by the heat generated by the percussion of the boring tool, in mines by the generation of heat by local chemical action due to the decomposition of pyrites, or to decaying timber, and by convection of heat both by air and water. Again, in mines the temperature is increased by the presence of workmen and lights, by blasting or fire setting, by the vicinity of hot springs, and by the compression the air undergoes in penetrating into the deeper workings. On the other hand, the temperature is lowered by the admission of air and water from the surface, and, it may be, by the vicinity of large masses of extremely cold water. These are some of the causes that may explain the irregularity of many recorded results.

Underground temperatures are most conveniently determined by the aid of boreholes filled with water; and it is desirable that the water should not be in motion. For the observations thermometers must be employed, which on being drawn out of the borehole should register the maximum temperature to which they have been subjected. In the deep borehole at Sperenberg, Dunker,† employed an earth thermometer, which gives its indications by the overflowing of the mercury, which takes place when the instrument is exposed to a higher temperature than that at which it was set. The construction of the thermometer is shown in Fig. 1. The stem is open at the top, and bent sideways. It is graduated from the top bent point downwards. Above the point is a small vessel, open at top and sealed at the bottom by a little mercury. This, as well as the stem, is surrounded by a glass cover with a side opening, by means of which the thermometer is brought in contact with the external air or water. In order to set the instrument, it is immersed in warm water, so that the mercury flows over from the stem into the sealed vessel. The instrument is then inclined until the point is under mercury, and cooled to a temperature below that expected in the borehole. On lowering the instrument in the borehole, the increased temperature will cause some of the mercury to overflow at the point. Care must be taken to make the observation sometime after the cessation of boring, and the thermometer must remain for at least half an hour at the desired depth. Before it is withdrawn it should be shaken, in order to remove any drops of mercury hanging from the point. When the instrument is drawn up the glass cover is unscrewed, and the thermometer immersed in water at a lower temperature than that obtaining in the borehole. The temperature of the water is noted by means of a normal thermometer, and, at the same time, the number of degrees that are empty in the earth thermometer is also observed. The sum of the readings of the two thermometers gives the temperature of the borehole at the depth investigated. The reason of this is as follows:—The mercury, when in the borehole, extends to the point; and if the water in which the thermometers are placed is $x°$ cooler than the borehole, the mercury column is $x°$ shorter. These $x°$ must, therefore, be added to the temperature of the water to give the temperature of the bore-hole. In order to test the accuracy of the determination, warm water is added to the cold, until the mercury in the earth thermometer rises to the top. The normal thermometer should then give the temperature of the borehole.

If the latter method only is used for determining the temperature of the borehole, the scale on the earth thermometer may be dispensed with. In order to obtain accurate results, care must be taken to use perfectly pure mercury, prepared by dis-

* A paper read before the Society of Arts.

† "Die Warm im Innern der Erde." Stuttgart. 1884

tilling chemically pure mercuric sulphide with iron filings, as the slightest admixture of foreign metals favours the formation of breaks in the mercury column.

The best instrument for determining underground temperatures is Negretti and Zambra's inverted maximum thermometer. This has a bulb at top and a broad column of mercury graduated upwards. In the stem there is a sharp bend, which, together with the contraction of the mercury column, prevents the mercury from passing the bend except under pressure. The thermometer is enclosed in a hermetically-sealed tube for protection against pressure, and is held in a position by a cork. The method of using it is as follows:—With the bulb downwards the instrument is set by tapping on the palm of the hand till the contraction and the bulb is full of mercury. The thermometer is then placed, with the bulb still down, in water a little cooler than the borehole. If the instrument is now reversed all the mercury in the stem will run down to the lower end from which the gradations begin, and the top of the column will indicate the temperature of setting. In this position the thermometer is then lowered into the borehole, and remains there for half an hour. As a precautionary measure, the thermometer is fitted into a hinged copper protecting case provided with holes.

WESTRALIAN MINING REPORTS OF 1896.

By Captain C. C. LONGRIDGE, M.F.I.M.E., M.I.M.E., &c.

IT seems a pity that, in the past year, so few, if any, attempts have been made to publish the cost of Westralian mining. Obviously, the commercial value of a mine depends as much on mining costs as on the presence of gold. Hence it is of as great importance to the shareholder, and, indeed, to the general public, to have full information on the one point as on the other. Yet, how few of the regular Press reports furnished by the secretaries of the various companies contain any information on the crucial matter of working costs. Take, for instance, the "Reports from the Mines," published weekly in *The Mining Journal*, possibly the only company that has attempted in this way to give any details of expenditure during the past 12 months is the Harquahala (Kalgoorlie), in the reports of which appear, on several occasions, such meagre items as labour, £350, mines supplies £350; total £700. Information of such a nature is totally insufficient to enable the shareholder or the public to form any accurate idea of West Australian mining expenses, or the relative working economy of the various managements. Through some other channel, perchance, this information is regularly given, but the writer can only say he is not aware of it, nor does he think the general public have any but the haziest notion of Westralian mining expenditure. Possibly it may be said that the majority of mines are not yet in full working order. This is true, but is it not equally true that their spending power has for months been in full operation, and that, in consequence, it is very important to keep both shareholders and the public informed of what and how money is being spent—on preparation or development, on labour as represented by work done, on standing charges, including management, on transport, power, and plant, &c. For this knowledge is essential to the formation of a clear and intelligent opinion as to the stability of Westralian mining ventures and prospects of the dividend in 1897.

In agreeable contrast to this deficiency of Westralian reports, stand those of African mining companies. These mines, for the most part, regularly publish monthly detailed statements of their expenditure and revenue. Comparisons are invidious, but if an example is needed, that of the Robinson Mine may well be cited. This company publishes an admirable monthly statement tabulated under such headings as: — Mining account (including mine maintenance), milling account (including mill maintenance), general maintenance charges, general charges. The foregoing are worked out in totals and per ton. Next comes: Expenditure on mine development (including main shaft), expenditure on machinery, plant and buildings. Retreatment account: Working expenses at cyanide and chlorination works, cost of concentrates purchased (including receiving), profits for the month, and so on. The monthly reports of the Meyer and Charlton Company also are very instructive reading.

It would doubtless, in a way, be more intelligible to the public if, in rendering such statements, mine managers adopted a common form of report, and attached a uniform meaning to the various headings. Unfortunately, there is in this matter considerable discrepancy; and, as Messrs. Hatch and Chalmers in their "Gold Mines of the Rand" have pointed out, it is consequently a most difficult matter to compare the working costs of the companies upon a fixed basis, owing to the various systems of charging working expenditure to the different heads of charge—for instance, some companies charge all expenditure connected with mining operations to mining account, inclusive of expenditure upon drifting, rising, and sinking winzes, and maintenance of mining machinery and plant, whilst other charges, drifting, rising, &c., to capital account, and redeem monthly according to the tonnage milled, charging the redemption to mine development redemption accounts, while maintenance of mining machinery, &c., is frequently charged to a special maintenance account. In this way some of the companies' mining expenses appear to be very low when compared with others. Considering that the question of costs is, as we have said, a crucial point, some effort might well be made to adopt a uniform system of mining accounts.

As Westralian companies, the writer thinks, perhaps unjustly, have so far erred by a total omission of published accounts, they might with advantage expiate their shortcomings in the past by starting in the New Year to publish month by month a regular, complete, and uniform statement of expenditure and revenue accounts. This would undoubtedly do much to steady the share market, and demonstrate what is the real value of Westralia as a mining investment.

REPORTS FROM THE MINES.

The Secretaries of their respective Companies have sent us the following Reports for publication:—

BASSET MINES.—Manager's report, December 19:—The 230 end west of Lyle's shaft is being driven by boring machinery at £3 per fathom, worth for tin £1 per fathom. Rise on the back of the 230 fathom level Basset lode is rising at £3 per fathom. Lode poor at present. The 230 end west Basset lode is worth £10 per fathom, driving at £6 10s. per fathom. The 230 end east is driving at £5 10s. per fathom, producing stones of tin, but nothing to value. The 230 end west of rise, middle lode, is worth £3 per fathom, driving at £4 per fathom. The 210 end west of rise is worth £20 per fathom, driving at £8 10s. per fathom. A winze sinking below the 210 fathom level is worth £12 per fathom, sinking at £7 per fathom. A rise in the back of the 210 fathom level is worth £10 per fathom, rising at £4 per fathom. The 200 end west is being driven by boring machinery at £7 per fathom. We have not yet passed the leader of the lode west of the crosscourse. The crosscourse has thrown the lode north, and the present end is in capels of the lode, and we hope to reach the leader in a few days. At the 200 fathom level west of crosscourse we are driving a crosscut south at £9 10s. per fathom. The Basset lode being to the south of us at this point, standing for 100 fathoms in height unexplored. Our stopes throughout the mine are without any particular change to notice, producing their usual quantities of tin. Marriott's shaft is down 3 fathoms below the 40 fathom level. We have nearly completed the cutting of ground for valve boxes, cistern, and the necessary room for fixing plunger lift at this level. The ground between the old shaft and our new shaft not being so solid as we expected we are compelled to go lower for the foundation of our brickwork. From the present appearance of the shaft I hope to commence the bricking up of the shaft from just below the 40 fathom level to the adit in a week's time.—Dunbar's. We are still driving the 170 end west of shaft by boring machinery at £7 per fathom. Lode poor. The proposed new steel head gear thought of by the directors and myself is still in abeyance. I find the steel head gear suggested will cost at least £1400; a wood head gear would cost not above £500. I cannot see my way clear to recommend the steel head gear. Our engines are all in first-class condition, we are keeping the water so far without any difficulty. The walls of the new engine house on Marriott's shaft will be up in two or three weeks' time. The rain for the past three weeks has delayed considerably. We have sold during the past four weeks 51 tons 8 cwts. 11 lbs. of tin, realising £1912 9s. 7d.—William James.

LEADHILLS.—W. H. Paull, December 21:—Brown's vein. In Gripp's adit level going south of Wilson's shaft the vein contains more spar strongly spotted with lead and blende ores, and likely to improve. Water still issuing from the forebreast. The stopes at work throughout the mines continue to produce their usual quantities of ore, but a good deal of our most productive ground in the upper levels is taken away, and one of our best stopes over the 70 fathom level is worked out to the 50 fathom level. No change worthy of remark elsewhere, water in mine now down to within 5 feet of sole of the 150 fathom level. The ground is covered with a thin coating of snow and frost very severe. Snow has just commenced to fall again. Full report will be forwarded next week after measuring, setting, &c.

WEARDALE LEAD.—Report on Weardale Company's Mines for the week ending December 19: Groverake, Sinking old shaft, the men have been timbering the shaft part of the week, and sunk 2 feet into the 4 fathoms limestone.—Boltsburn. Little limestone drift east in strong plate and grey beds. Stopes in north flats from Watt's level worth 36, 36, 20, 28, and 12 cwts. per fathom. Stopes in south flats worth 24, 38, 21, 14, 14, 16, and 12 cwts. per fathom. Jos. Lonsdale crosscutting south from vein. Vein stopes worth 18 and 10 cwts. per fathom. Six men opening out and repairing Redway level and rise.—Greenlaw's. Driving Race's drift still in the lead part of vein, a little ore but not to value. The sparry part is coming in and will soon get together when the vein will improve for ore. Stopes worth 14, 18, and 15 cwts. per fathom.—Lowe's drift. Stoping in scar lime, sparry vein rather improved for ore. Stopes worth 12, 12 and 12 cwts. per fathom.—Sedling. Driving 64 level east vein in plat 4 feet wide of spar and rider mixed with a little ore, looking better. Stope behind forehead strong vein, composed of spar and rider mixed with ore worth 12 cwts. per fathom.—Wm. Wearmouth's tribute stope in 64 level north branch. Crosscutting north from 64 have cut 1½ fathoms, and cut a quick string about 6 inches wide. Seemingly the main part of the vein is still to cut.—Killhope. Stope in Middlegrove vein above English's rise quick vein, worth 40 cwts. Men have now finished cleaning out and repairing the air drift. Ore raised for the week 40 tons, ore dressed for the week 25 tons. Ore, slag, and fume smelted for the week 82 tons, producing 43 tons pig lead. Dressing considerably retarded on account of frost and snow.

AMERICAN.

FRONTINO AND BOLIVIA.—Mr. Penberthy's report on the mines. La Salada, November 3:—El Silencio. This mine is looking well, in fact, much better than I have ever seen in look before. The working month of October commenced with gloomy look out, though we had in reserve sufficient good ore to have prevented any falling off in our produce. The unexpected often happens, and this proved to be the case with No. 5 south, where, and in view of the proximity of the poor lode on the other side, and in the end that was being driven from the winze to meet it, we had expected a rather long run of comparatively poor mineral. After passing through a few feet of this, we ran into a lode which for the month gave an average of 17 ounces 8 dwts. to the ton. A general sample taken on the 24th gave to the ton of stuff 20 ounces 16 dwts., width of lode about 3 feet. This improvement led to more careful measuring of the distance between the end coming north from winze sunk from No. 4 and the end of which I am writing. We were pleased to find that we had 62 feet of virgin ground from point to point, which means to say that this second discovery in this level may prove of greater importance than the first one. We are now in a position to form reserves of rich ore, which will be available, I hope, for some time to come. No. 3 winze (the nearest to end and sinking just behind the bar of unproductive ground) is going down in a lode about 6 feet wide. No 8 crosscut at the end of the month showed no change of importance, but to-day the lode (a well-formed one, giving 16 dwts. to the ton) has been intersected. We shall soon commence operations here that will entail the working of our horse whim both day and night. The crosscut has to be made wider and higher. A plat has to be cut and shaft sunk some 6 feet for a fork. Whilst engaged in these operations, we shall drive south with two men, and attack the lode vigorously, both here and to the north, as soon as plat and fork are completed. No. 7 south is still poor, and the lode very much disordered; an assay yielded 5 dwts. to the ton. No. 6 south seems at last to have settled down to something positively good, the end contains a well formed lode about 2 feet wide, giving an assay value of 1 ounce 10 dwts. to the ton. We hope for a continuation of this, and in view of the richness of No. 5 think that this point has a brilliant future before it.—No. 4 south. Here we have a lode 4 feet wide, looking healthy, and giving by assay 1 ounce 1 dwt. to the ton of ore.—No. 3 south. This level continues in a dirty, disordered and troublesome piece of ground.—No. 2 south. We are cleaning and repairing this level.—No. 5 north. I beg to refer you to a former report regarding an abandoned sink. During the month this has been put down to the level of No. 6, on what at present seems to be a fine lode, which gives an assay value of 3 ounces 18 dwts. per ton of mineral. This has come down east of the No. 6 level north, with which we are now making a communication. This lode bids fairly to remake the northern part of the mine. Of course, but little can be said positively up to date, but the lode presents such a fine appearance to-day that we have been led to suspend operations in the Nos. 5 and 4 levels, pending further development in this at present interesting point. Our stopes are much as usual, but the supply to the mills is not so abundant as I would like to see it. We are undoubtedly milling much more stuff than we were, this arising from the fact that the mineral is much softer, and that our mills are running with greater regularity. We are now considering the all-important question of a new shaft, which has become absolutely necessary. The old one, which inclines to the north rapidly and would ultimately run into the main engine shaft if continued, is down to the No. 7 level. From what I have stated it will be seen that it would be absurd to sink it any farther. At the same time we shall want more hoisting power than the mule whim can give us. It has consequently become imperative to sink and communicate a new shaft with the bottom of the perpendicular. This we intend doing from different levels at one and the same time. It goes without saying that this will cost money, and that a large amount of timber will be used in the work.—La Salada. This mine continues to supply the San Joaquin mills with low grade ores, of which there seems to be an unlimited quantity, and has shown no appreciative change since last reported on. Engine shaft has been sunk 3½ feet, work having been carried on by night only, and sinking having been suspended at times through water troubles, caused by the breakdown in the Tias watercourse, which was referred to in my letter No. 9. The lode in No. 3 south is still disordered and poor, there being no change in the stopes in the back of this. The lode in No. 2 level north has also fallen off in value, No. 3 rise in the back of this contains a lode 1 foot wide, and of an apparently good grade. In No. 2 level north on the flat lode we are still exploiting good milling ore, though not equal in grade to that formerly won from this point. In a stope in the back of this we have an increased width of lode, which yields the same quantity of gold as when last reported on. At this moment the lode in No. 2 south is small and poor, a recent change in the character of the rock indicating an early improvement. The three stopes in the back of this are yielding ores of a very low grade.—No. 1 south. This is the point where we expected to win high-grade ores during the month, and got deceived by the deceptive appearance of the pyrites, which proved to be very poor indeed. The lode is now 2 feet wide, and of a very promising appearance. A rise in the back of this shows a lode 4½ feet wide, the whole being good milling ore. The ground in cross cut, which is destined to communicate the main adit with the shaft, is more favourable for driving. Total advance up to date 33½ feet, still to drive 186½ feet.—Cordoba. The end of No. 8 level is now under the sink which is being brought down from No. 7, consequently we have commenced to rise from this point, and on a poor lode about 6 inches wide. The rock in the sink referred to is much harder than it was in the month of September. This will retard progress and delay the much wished for and necessary ventilation in No. 8.—Tigrito. No. 6 level west has shown no change since last reported on, and the advance has been very little owing to the breaking away of a large quantity of mud and water from some old workings. 800 cars of dirt were removed before work could be resumed. Rise No. 4 has been holed from this level to No. 5, improving the ventilation, and opening up a valuable section of stoping ground. The lode in No 6 level east has continued to improve, it is now 2½ feet wide, and apparently of a very fair quality.—Marmajon. Here we are still confined to the one rise, which is being pushed on for ventilating purposes.—Marmajito. In No. 2 level east the lode has improved, a change in the character of the ground giving very favourable indications. Stopes in the back of this level continue to produce very rich mineral. The lode in No. 2 level west is small and poor. Driving is suspended. A stope in the back of this continues to produce good milling ore. In No. 1 level west the lode seems to be pinched, and for the moment is very poor. A rise above this has also been suspended, having encountered a barren piece of ground. We have also suspended this. A stope in the back of this level is being wrought on a lode 4 feet wide, the whole yielding good milling ore.—John Penberthy.

NAMAQUA COPPER.—Abstract of superintendent's report for October: Tweefontein Mine, 140 fathom level east. A short distance has been driven, and it is hoped that good speed will be made in extending this level towards the east.—125 fathom level east. This level has been driven through the cross course to enable a winze to be sunk in the bottom to communicate with the 140 fathom level when necessary.—Winze in bottom of 125 fathom level east. The lode is not so good at present, but as there is a well defined lode going down, an improvement may again take place at an early date. Worth 4 tons of ore per fathom.—115 fathom level east. No change has taken place at this point.—Stopes. 105 fathom level east, 105 fathom level west, 115 fathom level east. The stopes continue to yield good quantities of ore, and are each worth 7 tons of ore per fathom.—No. 2 shaft. Intermediate level. There is a falling off in the value of the lode at this point. The lode, however, is of great breadth at this place. The sides of the level will be stoped, and in this way the ore will be followed in any direction it may lead. Worth 5 tons of ore per fathom.—35 fathom level east of No. 2 winze. This level is being driven in fairly good ore ground, the principal object being to facilitate communication between this point and No. 3 shaft. Worth 6 tons of ore per fathom.—No. 3 shaft. Good progress has been made in sinking this shaft. There is no change in the rock.—No. 4 shaft, stopes. The stopes in the bottom of the 12 fathom level are yielding well, and are each worth 8 tons of ore per fathom.—No. 5 shaft, west driving.—A little copper is found in the quartz which it is thought may lead to something better as the crosscourse is approached.—Wheal Julia, central shaft. A change of ground has been met with which indicates that the lode is near.—Shipping. The *Hinde* arrived at Swansea from Port Nolloth on the 9th instant, with about 700 tons of ore.—Output for November, 600 tons of ore of 29 per cent.—C. Lewis Bennett, secretary.

MISCELLANEOUS.

ALAMILLOS.—Mine report dated December 16:—In the 40 fathom level driving east of Santa Agueda's shaft the lode contains a little lead, but not enough to value. The lode in the 70 east of Sanz winze has declined in value to ½ ton per fathom. In the 160 east of Taylor's engine shaft the lode is open, producing stones of lead, but in the same level west is still unproductive. The sinking of Judd's shaft below the 100 fathom level is being pushed on as rapidly as possible. Vicentes' winze below the 85 is opening up stoping ground worth 1 ton per fathom.—Galvez' winze below the 85. The lode has declined to 1 ton per fathom. In Alvarez' rise above the 100 the lode is dressing well, and is valued at 3 tons per fathom.

BRITISH BROKEN HILL PROPRIETARY.—Mining manager's report for week ending November 12: Blackwood shaft, 50 feet level. The stopes here yielded 33½ tons of carbonate ore, and faces overhead are looking well.—100 feet level. 476 tons of carbonate ore were obtained from the southern section, and 51½ tons from east vein stopes, but there is no material change in either stope.—200 feet level. Sulphide stopes north of No. 1 west crosscut are showing strong faces of good milling ore. 319 tons was produced. South drive off No. 1 crosscut lengthened 7 feet, total length 73 feet. South drive in sulphides. 39 tons of sulphide ore were sorted out from here.—300 feet level. Upraise over west crosscut risen 3 feet, total height 8 feet, showing hard milling sulphides.—Howell shaft, 100 feet level. 738 tons of carbonate ore were broken from far north stopes, some of the floors carrying massive lead.—200 feet level. Stopes going southwards from No. 2 west crosscut are opening up good faces of sulphide ore, 310 tons being produced. Incline winze sunk 5 feet, total depth 69 feet. Sulphides still in bottom, 70 tons being sent to the surface. Are now commencing to rise from 300 feet level to connect with this winze. The stope in far east vein has improved, the lode opening out southwards. We mined 42 tons sulphide ore.—330 feet level, South drive off west crosscut driven 3 feet, total length 44 feet, sulphides showing the whole distance. Stopes off east crosscut look well, splendid faces of friable sulphides showing in upper floors. We obtained 332 tons from the stopes off the east crosscut, and 33 tons from the drive off the west crosscut, total raised 2550 tons.—The mill. Good work was done during the week.—Week's assays:—Carbonate ore. Lead from 39·2 to 44·5 per cent., silver from 1 6 to 26 7 ounces per ton.—Sulphide ore. Lead from 13 to 44·5 per cent., zinc from 15·7 to 29·2 per cent., silver from 4·4 to 14·8 ounces per ton.—Cable advice for 14 days ending December 21:—459 tons crude ore produced 1351 tons concentrates, containing 345 tons lead and 19,103 ounces silver.

BROKEN HILL PROPRIETARY BLOCK 10.—Mine Manager's report for week ending November 4: Campbell's shaft. 615 feet level. Winze in bottom main crosscut west nothing done since last report. Stopes in back of main level without change, producing ores assaying 31 ounces silver, 18 per cent. lead, and 30 per cent. zinc.—Kelly's shaft. 615 feet level stopes producing milling ore assaying 16 ounces silver, 21 per cent. lead, and 23·5 per cent. zinc. 515 feet level stopes yielding ore assaying on an average 19·0 ounces silver, 13·5 per cent lead, and 30 per cent. zinc.—465 feet level. Stopes yielding ore assaying 23 ounces silver, 23·5 per cent. lead, and 29·5 per cent. zinc.—415 feet level. Stopes yielding ore for shipment assaying 28 ounces silver, 26 per cent. lead, and 30 per cent. zinc.—Concentration. Plant treated 1580 tons crude ore assaying 19·9 ounces silver, 20·5 per cent. lead, and 29·7 per cent. zinc, producing 401 tons concentrates assaying 32·98 ounces silver, 65·44 per cent. lead, and 9·4 per cent. zinc. Ore despatched for week 366 tons 18 cwts. 2 qrs. gross, containing roughly 351 tons 4 cwts. 1 qr. lead, and 25,699 ounces of silver.

CRAVEN'S CALEDONIA.—The following fortnightly report has been received from the mine, dated Charters Towers, November 8:—The No. 7 level. On the hanging wall rose over this level I have had three men stoping on a reef averaging from 6 to 12 inches in thickness, and in the next three stopes the reef averages about 8 inches. The reef in these stopes is looking better than last reported. In the crosscut west from this level has been extended a further distance of 13 feet, making a total of 24 feet from the starting point. The haulage of quartz for the company for this fortnight is 35 tons, which has been carted to the syndicate mill. Hooper and party over No. 6 level have put through a crushing at the Bonnie Dundee mill of 23 tons for a yield of 30 ounces 5 dwts. of retorted gold. Gribbon and party in the Victoria reef have got about 25 tons of stone broken.

CHARTERS TOWERS CONSOLIDATED.—From report to October 24:—Have been stoping from boundary of North Australian Mine on reef 4 to 6 inches of fair looking stone. Stone broken about 2 tons, total 12 tons.—Tunnel. Stoping during fortnight in No. 1 west crosscut on reef 2 to 10 inches of brown stone showing a little gold. Stone broken about 4 tons, total 16 tons.—Straight shaft. Started to bale water Monday. Taken it down to bottom of timber. There was about 120 feet of water in shaft.

FORTUNA.—Mine report dated December 16: Canada Incon Mine, San Pedro's shaft. In the 125 fathom level driving east the lode is stronger, and has improved to ¾ ton per fathom. The 125 west is still being driven through unproductive ground. The 110 west, valued at ½ ton per fathom, is temporarily suspended and the men have been put to sink a winze. Gomez's winze below the 110 is now down to the 125 fathom level, to which it will shortly be holed.—Castro's winze sinking below the 11 fathom level. This is situated west of San Pedro's shaft and in advance of the 125 fathom level. The lode is valued at ¾ ton per fathom.—Los Solidos Mine, Taylor's engine shaft. In the 90 east the lode is split into branches and is unproductive. In the 90 east we have not yet found the lode on the eastern side of the crosscourse. The lode in the 60 west is small, and contains a few spots of ore. The 70 crosscut north this has been started west of Taylor's engine shaft, and will probably intersect the lode at a point which will be free from the influence of crosscourses. In the 92 west of Palgrave's shaft the lode is small and poor. Surface works are kept on with regularity, and the machinery is working well. The ore produced during November was 175 tons, in addition to which the tributers returned 61¾ tons of ore.

LINARES.—Mine report dated December 16: Pozo Ancho Mine. Warren crosscut. In the 203 fathom level driving east, the lode continues unproductive. The lode in the 207 west is large and strong but without ore. In the 178 west the lode is compact and regular with good stones of ore, and is valued at ½ ton per fathom.—Pelli's engine shaft. In the 200 west the lode is small, but does not yield ore enough to value. The lode in the 178 west has improved to 1 ton per fathom.—Los Quintentos Mine. Taylor's engine shaft. In the 200 east the lode is split into three parts, and of no actual value. The 180 east continues of good appearance, and is opening up ground valued at 2 tons per fathom. In the 155 east the lode is regular, but does not contain sufficient ore to value. Good stoping ground is being laid open in the 150 east, and the lode is valued at 2 tons per fathom. Ricardo's winze sinking below the 165 the lode is valued at 2 tons per fathom.

MILLS' DAY DAWN UNITED.—The progress at the mine for the half year ended September 30:—The mining operations carried out during the period were directed to opening the deeper ground, and comparatively little stoping was done. The underlie shaft has been sunk a further depth of 191 feet, making the depth below No. 11 level 181 feet and 1300 feet from the vertical shaft. The sink has been carried down in the footwall country, which is hard and difficult to work, which together with heavy water accounts for the comparatively small distance sunk. Plats have also been laid and No. 11 and 12 levels opened. No. 11 east level has been advanced 145 feet, carrying about 3 feet of fair stone in the end. At No. 12 level, which is 193 feet below No. 11, a crosscut has been put in towards the hanging wall 14 feet as the reef has been left overhead in the sink for some distance. It is anticipated that the lode will be met here within a few feet and every indication points to meeting a large body of stone. The other levels in progress during the period were the intermediate east and west and the No. 13 east. The intermediate west carries 2 feet of good stone, and there is a fairly large block available for stoping over this level. In all, the total extension of levels was 248 feet deep, while 57 feet of crosscuts and 328 feet of winze, in the aggregate, were also accomplished. The iron bridgeway referred to in last report has been completed, and proves of great utility in the disposal of waste from the mine. The prospects of the mine generally have greatly improved. The winze below No. 11 east carries stone the full size of the winze of fair appearance and very heavily mineralised, which indicates that the block to be opened by No. 12 level will contain a large quantity of payable stone. Sinking this winze had to be suspended owing to a heavy influx of water, which will be drained by the level later on. The No. 12 level will permit of a much longer extension than in the past, as the drive can be extended beneath the boundaries of the School Reserve on the east and Day Dawn Block and Wyndham on the west; and the large bodies of ore in the Day Dawn Block and Wyndham, which your property blocks off on the dip of the reef, gives an assurance of the future success of the company. Practically no stoping has been done below No. 10 level, and as No. 12 is 257 feet below No. 10 there is a large area of country to work in this section of the mine. The quantity of stone extracted during the period was 4151 tons, which gave a return of 3741 ounces 19 dwts. 6 grains of smelted gold, valued at (inclusive of sludges disposed of) £10,736 4s. 8d. The average per ton (13 dwts. 9 grains) is the lowest since 1893. From present appearances a better average should be obtained in the near future, and also a larger output. You will perceive from the statement of accounts that we still have £4031 on fixed deposit, and a further sum of £2021 2s. 1d. to current credit, besides stores, fuel, and timber on hand to the value of £1917. Your directors anticipate that the mine will be again self-sustaining before the funds on hand are exhausted.

No. 7 NORTH EAST QUEEN.—The following fortnightly report has been received from the mine, dated Charters Towers, November 8:—I beg to report that there is little or no change in the stopes with Penhaligion's party. The stone still keeps from 1 to 3 feet thick. They have about 21 tons on the surface towards their next crushing. Nealy and party are stoping on from 6 inches to 1 foot of stone. Andrews and party have very little stone at present. Hauled for the fortnight about 51 tons of stone, and baled 771 tanks of water.—(Signed) John J. L. Williams, manager.

NEW CHARTERS TOWERS.—From report to October 24: Stoping being continued between No. 2 and No. 1 levels on fair body of stone very heavily mineralised, and, as hitherto, good looking stone. Water now properly under control. Pump throwing very well indeed. A few hours pumping a day only necessary. Machinery and plant all in good order.

PAHANG KABANG.—Report for October dated November 8: Brand No. 1 sett. After continuing this end 4 feet further in order to get well through the slide referred to in my last report, I put the men to crosscut south, and 17 feet have been driven. In this crosscut we have intersected several loaders or "droppers," but no well defined lode. I have now put the men to crosscut north in order to prove the ground in that direction. On further looking at the displacement in the drive above the lode seems to be more split and disordered than to be properly heaved.—T and Semiliang, Fraser's lode. This end has been driven eastward 50 feet, to a 278 feet from crosscut. During the month there has been a good deal of slate intermixed with the lode, and samples show a trace of tin. In the course of a few days I intend putting the men to crosscut through the lode to prove its width and value. From the main crosscut we have driven west on the lode for 30 feet. The lode has been wider than the end, and samples give from ½ to 1 per cent. As the amount of back at this point is small we shall not continue driving here; but should the lower drive be started a winze will be sunk from this west drive to communicate with the lower one.

AUSTRALIAN.

ARMADALE GOLD.—The manager reports under date November 18 as follows: Winding plant. Mr. Fowler, the Inspector of Mines, has given a certificate for the egg-ended boiler.—Mr. Welch gave the machinery a trial run, and everything worked satisfactorily, and when the rope is fixed on the drum to-morrow, baling will commence, and sinking at once resumed.—Cyanide plant: Part of this is on the mine, and excavation is now being carried on under Mr. Bayne's directions to make room for the cyanide vats.

AUSTRALASIAN MINING.—Fortnightly report of Mr. John James, manager. During the past fortnight the crosscut west at the 768 feet level has been extended 15 feet, total 219 feet from the shaft. The country rock is hard conglomerate, laying the course of a reef, but bad working ground,—294 feet level. The crosscut at this level has been extended 23 feet, total 147 feet from the shaft. At about 98 feet from the shaft we cut the lode in this crosscut, since then we have passed through 19 feet of it. The country is of a better class than we met with in the shaft. The rock boring plant should be erected and completed in about two weeks time, when the drills will be at once set to work. Everything in and about the mine is in good working order.

BRILLIANT GOLD.—Mr. N. Mayne, manager, reports for the fortnight ending November 5: The stope over No. 3 level west is at present carrying 1 foot of stone. The two stopes over No. 4 level west are at present carrying an average of 3 feet of stone. In the three stopes over No. 3 west level the reef average is at present equal to 2½ feet of stone, and in the footwall stope at this same level there are at present 18 inches of stone. The three stopes over No. 6 west level are at present car ying throughout them 2 feet of stone. In the two stopes over No. 6 east level the reef average is equal to 1½ feet of stone. The four stopes over No. 7 west level are carrying a reef varying from 1 to 4 feet in thickness. The single stops over No. 8 west level is at present carrying 7 feet of stone. The rise from No. 8 east stopes has been further extended 6 feet, making the total height 60 feet. We have also sunk from No. 7 to meet this rise a further 6 feet, making the total depth thus sunk 24 feet, where we holed to the rise on 1 foot of stone. The stope over No. 9 west intermediate level is at present carrying 7 feet of stone. The rise from this stope towards the hanging wall has been further extended 7 feet, making the total height of this rise to date 25 feet, but as yet without stone there. No. 9 east footwall drive has been further extended 10 feet, making its total length to date 60 feet, with 12 inches of stone at its present face. In the two stopes over this last-mentioned drive the reef average is equal to 4 feet of stone, and in the two stopes on the hanging wall here there are also 4 feet of stone. The stope over No. 12 west level is at present carrying 2½ feet of stone. The two stopes over No. 12 east footwall drive are carrying on an average 2½ feet of stone. The winze from the last-mentioned level has been further sunk 11 feet, making its total depth to date 66 feet, with 1 foot of stone at its present bottom. The hanging wall drive at No. 10 east level has been further extended 17 feet, making its total length to date 204 feet, but at present without stone. The drive west on the same hanging wall has been further extended 41 feet, making its total length to date 74 feet, with 6 inches of stone at its present face. The winze from this drive, here for the first time mentioned, has been sunk 15 feet to date on 2½ feet of stone. There has been nothing further done at No. 11 west. The two footwall stopes over No. 11 east level are at present carrying on an average 6 inches of stone. The hanging wall drive at No. 11 east level has been extended a further 19 feet, making its total length to date 42 feet, with 5 feet of stone at its present face, and a drive in a westerly direction from the same crosscut has been extended a further 17 feet, making its total length to date 33 feet, but at present without stone. The under-rise shaft has been additionally sunk 8 feet, making its total depth to date 854 feet, or from No. 11 plat 53 feet, with 18 inches of stone at present bottom. The approximate output of quartz for the past fortnight amounts to 141¼ tons.

CURTIS DAVIS PROPRIETARY.—Mine manager's report for week ending November 7: 100 feet level driven 3 feet, total 161 feet. Lode 5 feet wide, oxidised ore full of vughs and bad for breaking. The lode keeps very strong and is showing more copper pyrites than usual. 420 feet level driven 7 feet, total 284 feet. Lode 2 feet wide, with vein of cubical galena against the hanging wall, which keeps well defined. Winze sunk 3 feet, total 60 feet. Lode formation 2 feet wide. Specs of rich fahl ore has dipped north out of winze. 560 feet level driven 7 feet, total 298 feet. Lode 3 feet wide, veins of ore all through. Footwall loops regular course. Winze sunk 4 feet 6 inches, total 59 feet 6 inches. Lode 30 inches wide of siderite, carrying yellow copper and fahl ore in good proportion.—Rise. Have started a rise 157 feet in tunnel to connect with winze from 420 feet level. Risen 3 feet. Lode 2 feet 6 inches wide with 18 inches of good ore. 640 feet level driven 5 feet. Lode 2 feet wide, with 6 inches of good ore on footwall carrying high-grade fahl ore. There is a slight change of country in this drive. The ground breaks better, and the walls are letting down a little water.—340 feet level. Driven 3 feet, total 346 feet. The face is much mixed with pyrites, and against the hanging wall there is 1 foot wide, which shows fahl ore.—1000 feet level. Driven 4 feet, total 92 feet. Lode 2 feet wide of quartz and pyrites, with a mixture of conglomerate and breccia filling the remainder of the drive.—Assays. 630 feet level, fahl ore, &c., 157 ounces 8 dwts 1 grain silver per ton, 100 feet level, ferro manganese, 7 ounces 16 dwts. 19 grains silver per ton, gold trace. 420 feet level, cubical galena, 30 ounces 17 dwts. per ton silver, 7½ per cent. copper. 560 feet level, fahl ore, 658 ounces 11 dwts. 4 grains silver per ton. 650 feet level, fahl ore, 3028 ounces 4 dwts. silver per ton.—Note. Have not been able to do copper, bismuth, and antimony determinations, as the nitric acid, which has been ordered, has not yet arrived.

EMERALD (Reward).—The manager reports under date Yalgoo, Nov. 12, as follows:—The poppet legs at the main shaft have been completed since my last report, and are now ready for use at any time.—Re new machinery. The setting for the boiler was completed during the week, after which I set two men to clean it out internally, as there was a lot of mullock and scale inside, the removal of which before raising steam was very advisable. Of the fittings, the safety valve, the feed piping, and the feed retention valve have been put on, but the blow-off cock will have to wait until the operation of cleaning has been completed. The arrival of the necessary pump and engine parts which have been in order at Perth for some time enabled me to commence making the traveller and sweep rod which transmit the motion of the engine to the bob working the pump, and they are accordingly in the carpenter's hands and are being pushed ahead as fast as possible. The lowering of the pump itself into the shaft and its erection therein have been commenced, and the progress made with the engine (when the flywheel and governor pulley have been erected) will, I hope, enable me to commence working by the end of next week.

FREDERICK THE GREAT.—Copy of letter from Bendigo, dated Nov. 18: —We have the honour to report the following progress in your mine during the past fortnight. The level south at No. 5 or 630 feet from the surface has been driven a further distance of 16 feet, and timbered total south of main crosscut 730 feet. There is a new make of stone coming down in this level 1 foot thick in the bottom, 2 feet thick in the top, and making larger. This stone is of very nice appearance, well charged with minerals, and the last two shifts has been showing fair gold. A stope has been started on the east side of the level, the stone here is rather broken up at present, but will get more solid a few feet further to the east. The winze below this level 526 feet south of the main crosscut has been sunk a further depth of 10 feet, total from level 42 feet, also timbered 12 feet. The stone in the bottom is underlying west very fast, so we are now sinking on the underlays, taking the stone 2 feet 6 inches in width, which is showing a little gold. The intermediate level 58 feet below the 580 feet level has been driven and timbered 10 feet, total south from winze 46 feet. The stone in the face is rather broken up at present, have temporarily stopped this level and put the men on to drive the north intermediate level. The stone in the face of this level shows a little gold. The stopes over these levels have been mullocked up, and stoping started higher up. Owing to this the batteries were stopped during the first week of the fortnight, and crushing was resumed last Monday, so that there will be no cleaning up this week, but run on until next fortnight. The forward statement of accounts also vouches for last fortnight's payments.

GALLYMOOT GOLD FIELDS.—Galley Swamp, November 12: Since reporting on the 31st ult. mining and surface operations have progressed as hereunder stated:—Mining. The Great Western shaft has been advanced 25 feet and timbered up 20 feet, present depth 70 feet. The prospecting shaft on the northern area has been deepened 20 feet and timbered, total depth 70 feet. The new shaft on the southern area was commenced on the 2nd inst., and has been continued to 23 feet 6 inches.—Sur ace work. As intimated in my last, the poppet heads over the new shaft on the southern area have been completed, also excavation preparatory to the erection of machinery. The laying out of the machinery is now receiving attention, and on completion its erection will be at once proceeded with. Excavations are also being expedited at the Great Western to prepare for the additional plant that will be required for sinking and other development work.—New buildings, secretary's cottage. The contractor has this work well in hand, and will have same finished about the 18th inst. The magazine for storing explosives is completed. I purpose commencing to build a new engine house at the new shaft and enlarging the old engine room at the Great Western, and hope to report considerable progress in my next.—(Signed) W. H. Skidmore.

COLUMBIA (Charters Towers) GOLD.—Mine manager's report for the fortnight ending November 4 as follows:—During the fortnight the level north has been extended 24 feet, making the total distance from the shaft 47 feet. In the present face the reef is pinched, but the formation is favourable. For the fortnight 6 tons of stone have been raised, making the total on the surface 15 tons. Work in the south level has been suspended, but will be resumed early next week. They are now winding with the new engine, which works satisfactorily.

FOREST CREEK (Victoria). — Mine manager's report, dated Chewton (Victoria), November 13:—Operations at the mine have been considerably delayed during the fortnight by cutting into heavy water coming from the bottom of the shaft. A lift had to be procured, and is working satisfactorily. I am of opinion that the inflow of water indicates that we are in close proximity to quartz formation. When the water is drained from the main shaft better progress will be made in sinking. At the Energetic lease prospecting has been made for the water wheel, and in a few weeks a dam will have been constructed.

GREAT DYKE AND ORIZABA CEMENT CLAIMS.—The following is extracted from the manager's report for November: November 4. Average sample from all cuttings up to date. Quantity taken 160 lbs., ground through sieve No. 3, 4 lbs. washed, result 2 ounces 8 dwts. of gold per ton. A portion of this sample was assayed in Coolgardie, and the result shown was 2 ounces 6 dwts. 23 20 grains of gold per ton. Another portion, assayed by Messrs. Johnson, Matthey, and Co., of Hatton garden, London, gave 2 ounces 6 dwts. 7 grains of gold per ton of 2240 lbs. of mineral.—November 6. Average sample taken from all the ore at grass—quantity taken 185 lbs. ground through sieve No. 3, 4 lbs. washed, result 1 ounce 4 dwts. per ton.—November 9. Average of pudding stone cement—quantity taken 19 lbs. ground through sieve No. 3, 4 lbs. washed, result 5 dwts. per ton.—Lease No. 1884. A trench has been made in order to carry out work by the open cut system of mining, which will prove to be the cheapest under our circumstances. The channel is for the present about one-half finished, extracting at the same time about 2100 tons of ore. The ore extracted in the cuts at the north-east corner of Great Dyke, and also, by making trial holes, I calculate to be about from 500 to 600 tons. Observing for some time that the diorite especially of water shaft No. 2, is strongly impregnated with iron pyrites and mispickel, I took a sample of said diorite, about 10 lbs., which, after grinding, was washed down to half a pound of concentrates, which were assayed by fire assay, and it was found that they contained 16 dwts 23 grains of gold per ton of 2240 lbs. This result interests us in so far as it is able to throw some light on the matter of how the auriferous deposit was formed, and where and how we can account for its origin. 20 settling tanks are ready to go into place. Stand for battery supply tank (holding about 8'00 gallons) completed. Gallows frames for water shaft No. 1 erected, and hoisting engine running and bailing water. Water shaft No. 1 has been timbered to a total depth of 160 feet.—Lease No. 2171. Starting tunnelling to open up Great Iron Dyke.—Lease 2193. Laying out water dam on this lease.—Lease 1929. The south drive in water shaft No. 2 has been driven a further 4 feet, total 50 feet.—Lease 2189. Drive to the north in water shaft No. 4. This has been driven a total distance of 5 feet.—Lease 2193. Water shaft No. 3, total depth 199 feet.

HANNAN'S FIND GOLD REEFS.—Mine report for fortnight ending October 24: Bohemian Girl. For the past fortnight we have crosscut east from the engine shaft towards No. 1 shaft a further distance of 40 feet, making total amount of country crosscut from main shaft 120 feet, thus leaving but 50 feet more ground to break to connect this level with Nos. 1, 2, and 3 shafts. We continue to pass through various ironstone and quartz leaders carrying gold, but are much too small to be worked profitably. As soon as this and No. 1 shafts are connected I purpose crosscutting from the west part right across to the west boundary, and prove if we have any lode or reef running through this portion of our holding. If we do not find anything payable there I shall resume sinking to the 200 feet level without delay.—Golden Pheasant. During the fortnight we have continued the east crosscut from No. 5 shaft for another 12 feet, making the total crosscut east 27 feet. We have been in hard blue diorite for the whole of the past two weeks, and still have it in the face of the crosscut, without any signs of meeting with a change of country. I have discontinued work here, and am now driving east on the reef in the underlay shaft, and am happy to be able to say that the ore from here is prospecting very favourably. If it will only continue for next 80 feet equal to what it now is I do not think we shall have much to complain of.—H. Ley Hancock, consulting engineer.

IVANHOE (No Liability).—Mine manager's report, dated Kalgoorlie November 5: The water area shaft is making good headway, is now 120 feet deep and timbered, water about 800 gallons per day. Engine shaft sunk 15 feet, total 49 feet below the 300 feet level, sinking will be continued to a depth of 350 feet before opening up for next level. Water from country slightly increasing, about 300 gallons per 24 hours. Main shaft sunk 70 feet, total 135 feet from surface. Rock rather soft diorite, indications of lode formations. West shaft has reached a depth of 61 feet, grey diorite. Middle lode, 100 feet level No. 6 shaft, north drift extended 18 feet, total 150 feet level, lode disordered. East lode, 100 feet level, south drift continues to open up high grade ore, driven 13 feet, total 140 feet. Lode 14 feet thick. Winze 45 feet south of shaft sunk 3 feet, total 48 feet, carrying 5 feet. Ore showing value from 1½ to 3 ounces per ton. North drift, western crosscut has been started 70 feet north of No. 7 shaft to connect level with No. 1 engine shaft, 20 feet has been crosscutted. Daily samples show more or less gold whole distance.—Stopes. The mill has been nearly fully employed from progressive faces. Four men employed in stopes about half time. New mill started to-day and is running smoothly, and we expect there will be sufficient water for 10 heads.

LADY MAUDE GOLD MINES.—The manager, under date of November 18, reports as follows: Surprise main shaft. The drive on the reef northwards is now in a distance of 37 feet, at which point we have just broken into the old prospecting shaft. In the last 6 or 7 feet the reef has improved considerably. Cannot ascertain its width here. We are taking the whole width of reef in the drive, which is 5 feet wide. Will send you plan next week.—Watershaft. The contractors are making very slow progress. The country at bottom of shaft is exceedingly hard.—Maude main shaft. I resumed driving crosscut, and believe that we shall have the main or hanging wall portion of the reef in hand very shortly, as the water increases as we go in.

LONDON AND WESTERN AUSTRALIAN INVESTMENT. — Hannan's water rights 88 to 92. Extract from manager's reports just to hand:—Each of these shafts has been sunk to a depth of 150 feet and timbered throughout. All the shafts are giving a fair supply of salt water, the total daily yield having increased to about 9000 gallons. Boring to a further depth of about 175 feet is now being commenced. I have no hesitation in saying we must have at least 7000 gallons per day perhaps, which equals 35,000 gallons per day. The construction of the several shafts has been carried out in a practical and workmanlike manner in 14 weeks, which I think is a record for like work in Kalgoorlie.

LONDON AND WESTERN AUSTRALIAN EXPLORATION.—Extract from mine manager's reports: Mortzy's (Mount Sir Samuel), Hanson's shaft. This shaft has been sunk to a depth of 79 feet, where we struck good fresh water. There is about 4 feet of a reef going underfoot, highly mineralised, and showing good gold. The last few feet we had to take this shaft down on the footwall, as the reef and formation were getting too big.—Boundary shaft. Still sinking on the footwall stone, which carries good gold throughout.—Davis shaft. We are following 3 feet 6 inches of solid stone, carrying good gold throughout, and showing coarse colours. As we are going down it is showing better gold.—British King lease (Darlot). The lode is improving the last few feet, is now 20 inches wide, nice solid block stone showing gold. I expect this lode to make bigger going east at 100 feet. We have a shaft down 75 feet on the course of the lode, the reef being 2 feet 6 inches wide in the bottom. The west end has been extended 4 feet, total distance from shaft 28 feet. The lode in this end is 5 feet wide, showing gold, and dollies fair prospects. The smith's shop is almost completed, and everything is going along very well.—Pind on Block 48 Hampton Plains. The stone in the drive going south off No. 2 shaft is at present about 8 feet wide, and is not quite so solid as hitherto, I expect a favourable change again in this drive very shortly. I have put a crosscut across the reef about 100 feet south of No. 2 shaft, the stone is 4 feet wide, and carries a large quantity of galena and pyrites. I got fair prospects by dollying.

MOUNT LYELL.—Engineer in charge of mine reports for week ending November 6:—No. 1 tunnel. Drive extended 2 feet, total 133 feet.—No. 1 tunnel north drive. Drive extended 4 feet, total 104 feet.—No. 3 tunnel main crosscut south drive. Drive extended 5 feet, total 74 feet.—No. 3 tunnel main crosscut north drive. Drive extended 5 feet, total 89 feet.—No. 4 tunnel south drive. Drive extended 6 feet, total 611 feet.—No. 4 tunnel south drive No. 3 crosscut. Crosscut extended 3 feet, total 100 feet.—No. 4 tunnel south drive No. 8 rise. Rise put up 4 feet, total 64 feet.—Surface work. No. 1 bench. Stripping overburden continued at southern end.—No. 2 bench. Breaking ore for smelters.—No. 3 bench. Stripping footwall continued.—Chief metallurgist reports for week ending November 6. Smelting plant. Both blast furnaces in operation.—Extension of plant. Heavy retaining wall completed, foundation walls for bins nearing completion, excavation for ore storage pit in progress, foundation piles of extension of building in hand.—Water race from Conglomerate Creek. Excavation finished from reservoir to Lyell wagon road.—Converter plant. All work progressing favourably.—Remelting furnaces. System for water supply finished, laying track for crucibles, setting up latter.—Converters. No. 1 in place and ready for lining. Blowing engine adjusted for work, steam connection with boilers completed. Air connections with converter in progress.—Blower for remelting furnace. Platform finished, blast pipe nearing completion. Boilers now being tested, preliminary to firing up. — Turntables. Centre one completed, foundation of others in progress. — Silica and clay mill. Clay pan finished, crushing rolls in place. Blake crusher in position, elevator in progress, shafting mounted, and will generally nearing completion.—Construction plant. Five forges at work, brickmaking again resumed. Weather very dry.—Superintending railway engineer reports week ending November 7: Queenstown goods shed will be completed next week. Converter siding in good progress for 10 chains. Machine shops and locomotive sheds site, excavations completed and grading in progress. Teepookana wharf, alterations and additions for steam crane complete d. Rocklaying, 1 in 30 gradient completed and 1 in 16 gradient in progress. Preparatory work for railway offices, mixed guage points, and crossing, water supplies, &c., all in hand.

MYALLS UNITED.—Mine report for fortnight ended November 7:—Main (vertical) shaft now down 293 feet. The ground is a little better for sinking, and more rapid progress is anticipated the next few weeks.—Main reef. Drive south at No. 3 level extended 27 feet, now 144 feet from No. 1 shaft. Stone 35 feet, showing good gold, with every indication of the strong make of quartz continuing in this direction. Drive north at No. 3 level extended 6 feet, total 134 feet from shaft. Drive north at No. 2 level extended 13 feet 6 inches, now 45 feet 6 inches from old workings, with a view to connecting with winze from level above (level No. 1), where good stone is known to exist.—Queen reef. Drive south at No. 3 level extended 14 feet, now 55 feet 6 inches from No. 3 crosscut. Lode heaved slightly to footwall. Drive north at same level extended 18 feet 6 inches, now 45 feet 6 inches from crosscut, stone 6 feet wide of low grade. Drive south at No. 2 level driven 22 feet from No. 2 crosscut, following stone 20 inches wide, worth over 2 ounces of gold per ton, now opening out on footwall side, where is a make of stone over 6 feet wide, giving by dish trials 2 ounces per ton. Drive north at No. 2 level driven 18 feet 6 inches from No. 2 crosscut, lode pinched here by a horse of hard blue rock, which will dip north and under the drive in a few feet, lode will then be found in hanging wall, where a strong shoot of stone will probably be met.—General. No. 2 cross cut having intersected Queen reef, and proved its existence 100 feet above where first struck, now stopped, the reef being opened on as above. Drive north at 158 feet from Reidie's shaft extended 31 feet, now 210 feet from old stopes, stone about 20 inches wide and unaltered in value.

3 NORTH SMITHFIELD.—The directors have received the following report from the manager of this mine, dated Gympie, November 13: During the past fortnight we have sunk the shaft a further depth of 14 feet, total from surface 193 feet. The country passed through was limestone slate, we were only able to sink seven and a-half days, on account of cutting heavy water, which we have bailed five days with two shifts, but the water has gained on us 62 feet.

OCTAGON EXPLORERS.—Mine manager's report November 8: Tower Hill north. No. 1 shaft has been sunk a further depth of 5 feet, making a total of 80 feet from the brace. Am still raising very fair battery stone.—No. 8 shaft. Have started to crosscut east towards hanging wall of reef. The stone is very hard indeed (which makes progress very slow), but carries very good gold.—Vesper Bell. No. 4 shaft has been sunk 4 feet, making a total of 46 feet from the brace. Have just struck what appears to be the reef. Tried drillings, and got very fair tail fine gold.—Richmond Mine. Mine manager's report, November 12. No. 2 shaft. East crosscut extended a further 15 feet, making a total from shaft of 77 feet. A change of country appears to be making in the face of the crosscut, but we are not sufficiently far into it to prove if it is of any value or otherwise.—Southern Boulder Mine (owned jointly with the Gold Estates of Australia, Limited). Mine manager's report, November 12. Main shaft. We have been engaged cutting out two chambers 12 feet by 10 feet, where we put in the opening sets. This became necessary owing to the swelling nature of the ground. These chambers have now been securely timbered and lathed up. In addition we have sunk 6 feet, total from surface 87 feet. No change.—Union Jack Mine (owned jointly with Gold Estates of Australia, Limited). Mine manager's report, November 12. We have finished timbering the shaft down to a depth of 57 feet 6 inches, and have also placed a frame and level sets in position at the 51 feet level. In addition we have sunk 4 feet, making a total from surface of 65 feet. Hard slate country still continues. The erection of a good substantial blacksmith's shop and store room is now completed.

SOUTH MOUNT LYELL.—Mine manager's report dated Melbourne, November 17: The shaft has been sunk a further distance of 4 feet, or a total of 39 feet from the surface. The country passed through is partly an ironstained light coloured schist, and partly the blue variety highly mineralised. The quartz leader before referred to has now underlayed out of the shaft to the west, and the water is making rather freely from its cleavage with its country rock on the country rock on the east side.—Tunnel section 112-91. The contractor has advanced the face of this tunnel a further distance of 16 feet for week, or a total of 201 feet from opening set. Country rock unchanged since previous report.—Main tunnel section 4-92. Last Monday your Chairman (Mr. Crotty) arrived here, and after examining the workings on this level he advised the continuation of the east drive along the conglomerate wall to follow the hematite iron formation. I therefore stopped work in the face of the tunnel, and after relaying the road started again in the east drive, and the face has since been advanced 4 feet, or a total of 81 feet from the tunnel. The iron ore body at this point as proved by the north crosscut is 13 feet wide, and in the face of the drive is going strong along the conglomerate wall, with plentiful seams of barytes in conjunction with it.

VICTORY CHARTERS TOWERS.—Manager's report for fortnight ending October 31: No. 1 east level. Stoping has been carried on over this level to 6 inches of stone, medium quality. Present face in blank country. The winze from this level has been sunk a further distance of 8 feet, making total distance 11 feet, carrying 8 inches of good quality stone. At that depth we holed through to the stopes below.—No. 1 west. We have started to stope over this drive on stone that will average 6 inches thick, medium quality.—No. 2 east. Stoping has been carried on over this level on stone from 6 to 12 inches thick, of fair quality. The underlie shaft has been sunk a further distance of 23 feet, total depth from bottom of straight shaft 422 feet. Reef will average 3 inches of good quality in present face. In sinking this distance we passed through two vertical heads, which seem to have thrown the reef up in the hanging wall. A trial hole bored in the wall went through 2 feet of good quartz and 3 feet of formation. We will be able to say more about it in a few days. Quartz hauled for the fortnight 45 tons, total in paddock 120 tons.

WHITE FEATHER EXTENDED.—Extract from letter from mine, dated November 17: Mining progress. Owing to the ground becoming harder in the main shaft only 6 feet has been sunk for the fortnight, but the rock is well mineralised. The north drive is now in 36 feet. The reef has improved very much since last report, having widened to 2 feet, and which the mine manager estimates should go 2 ounces to the ton.—West crosscut. Another vein, 15 inches wide, carrying gold, has been met with. The crosscut is now 106 feet

AFRICAN.

ANGELO.—Report of work done on this property for the month of October:—South reef. No. 1 south incline shaft sunk during the month 23 feet, total depth 611 feet. 3rd level crosscut advanced during month 8 feet, total length 24 feet. Drive for ore bin advanced during the month 52 feet, total distance 52 feet. Main east drive advanced during the month 40 feet, total distance 132 feet.—Assay value October 3. Average width of reef 30 inches, value 134 dwts.—October 24. Average width of reef 24 inches, value 261 dwts.—October 31. Average width of reef 30 inches, value 36 dwts. Main west drive advanced during month 76 feet, total distance 137 feet.—Assay value October 3. Average width of reef 20 inches, value 23·50 dwts.—October 17. Average width of reef 24 inches, value 8·50 dwts.—October 24. Average width of reef 36 inches, value 55·10 dwts. Drive for ore bin advanced during the month 31 feet, total distance 64 feet. Rise in back of main shaft advanced during the month 5 feet, total distance 22 feet.—1st level. East drive advanced during the month 79 feet, total distance 356 fee.—Assay value October 3. Average width of reef 36 inches, value 3·50 dwts.—October 10. Average width of reef 42 inches, value 5 dwts.—October 17. Average width of reef 42 inches, value 2 dwts.—October 24. Average width of reef 24 inches, value 7 dwts.—October 31. Average width of reef 47 inches, value 12·39 dwts. East winze advanced during the month 31 feet, total depth 42 feet.—Assay value October 3. Average width of reef 12 inches, value 10·125 dwts.—October 10. Average width of reef 12 inches, value 41·50 dwts.—October 17. Average width of reef 12 inches, value 125 dwts.—October 24. Average width of reef 14 inches, value 59·25 dwts.—October 31. Average width of reef 12 inches, value 27 dwts. East rise advanced during the month 85 feet, total height 85 feet.—Assay value October 17. Average width of reef 24 inches, value 5·50 dwts. October 24, Average width of reef 24 inches, value 3 dwts.—October 31. Average width of reef 4 inches, value 8 dwts. West rise advanced during month 37 feet, total height 47 feet.—Assay value October 3. Average width of reef 30 inches, value 4·50 dwts.—October 10. Average width of reef 36 inches, value 9 dwts.—October 17. Average width of reef 42 inches, value 22 dwts.—October 24. Average width of reef 36 inches, value 13·20 dwts.—October 31. Average width of reef 42 inches, value 6 dwts.—North reef. No. 1 north incline shaft sunk during the month 38 feet, total depth 490 feet. 3rd level east drive advanced during month 3 feet, total distance 45 feet.—Assay value October 3. Average width of reef 36 inches, value 50 dwts. West drive advanced during month 3 feet, total distance 57 feet.—2nd level. East drive advanced during the month 31 feet, total distance 176 feet.—Assay value October 3. Average width of reef 12 inches, value 4 dwts.—October 10. Average width of reef 42 inches, value 3·85 dwts.—October 17. Average width of reef 27 inches, value 14·50 dwts.—October 24. Average width of reef 54 inches, value 7 dwts.—October 31. Average width of reef 51 inches, value 12·89 dwts.—West drive advanced during month 36 feet, total distance 176 feet.—Assay value October 3. Average width of reef 42 inches, value 3·50 dwts.—October 10. Average width of reef 30 inches, value 3·50 dwts.—October 17. Average width of reef 31 inches, value ·52 dwts.—October 24. Average width of reef 30 inches, value 2·50 dwts.—October 31. Average width of reef 33 inches, value 4·04 dwts.—First level. East drive advanced during the month 54 feet, total distance 267 feet.—Assay value October 3. Average width of reef 24 inches, value 4 dwts.—October 10. Average width of reef 24 inches, value 7 dwts.—October 17. Average width of reef 24 inches, value 1·75 dwts.—October 24. Average width of reef 60 inches, value 1·90 dwts.—October 31. Average width of reef 50 inches, value ·82 dwts. West drive advanced during month 27 feet, total 194 feet.—Assay value October 3. Average width of reef 12 inches, value 7·25 dwts.—October 10. Average width of reef 18 inches, value 3 dwts.—October 17. Average width of reef 18 inches, value 15·50 dwts.—October 24. Average width of reef 24 inches, value 14 dwts.—October 31. Average width of reef 24 inches, value 3·50 dwts. No. 2 north incline shaft advanced during the month 33 feet, total depth 311 feet.—Assay value October 3. Average width of reef 24 inches, value 4 dwts.—October 10. Average width of reef 30 inches, value 11·50 dwts.—October 17. Average width of reef 24 inches, value 4·25 dwts.—1st level. East drive advanced during the month 29 feet, total distance 152 feet.—Assay value October 3. Average width of reef 42 inches, value 6·50 dwts.—October 17. Average width of reef 36 inches, value 4 dwts.—October 17. Average width of reef 26 inches, value 5 dwts.—October 24. Average width of reef 36 inches, value 4 dwts.—October 31. Average width of reef 36 inches, value 9·50 dwts. West drive advanced during month 44 feet, total distance 188 feet.—Assay value October 3. Average width of reef 42 inches, value 4·25 dwts.—October 10. Average width of reef 36 inches, value 9·50 dwts.—October 17. Average width of reef 36 inches, value 9 dwts.—October 24. Average width of reef 36 inches, value 6·50 dwts. October 31. Average width of reef 48 inches, value 11 dwts. West rise advanced during the month 8 feet, total height 20 feet.—Assay value October 3. Average width of reef 38 inches, value 3 dwts.—October 10. Average width of reef 24 inches, value 22 dwts.—Total footage for the month 779 feet, as follows: 99 feet shafts, 506 feet drives, 168 feet winzes and rises, and 8 feet crosscuts. 6761 tons on the north reef and 5715 tons on the south reef have been developed during the month.—Construction. The equipment of the south incline shaft is now quite finished and working most satisfactorily. During the month the excavation has been taken out, masonry put in for the 100 stamp battery, and the fixing of the pile blocks has been commenced. The excavation and masonry for the cyanide works have been started, and large quantities of the plant delivered on the site. The engine and boiler house and machinery of the No. 1 north incline shaft have been completed. A tank of 2,000 gallons capacity has been erected for drinking water.

ELANDSFONTEIN NO. 2.—Captain John Roberts, mining engineer, just appointed to take permanent charge of the affairs of the Elandsfontein No. 2 Gold Mining Company (Limited) in the Transvaal, in a letter written just after his arrival at the mine, dated November 23, writes as follows: I brought two or three stones of the bank from the north reef, panned them, but they did not show any free gold, but a great deal of pyrites, exactly the same sort I have seen panned from the main reefs of the Witwatersrand, for which they use the cyanide process. I am very favourably impressed with the mine, and as it is in the same kind of formation as the Rand mines, there can be no reason shown why the reefs should not be as rich.

JOHANNESBURG PIONEER.—Return of revenue and expenditure, October.—Capital £21,000. Quartz on hand at grass October 1, 1563 tons. Quartz mined and hauled during October 2838 tons. Total, 4401 tons. Quartz milled during October 2838 tons. Tonnage at grass November 1, 1 63 tons.—Yield of gold (smelted). From mill 2153·35 ounces, from cyanide works 1158 50 ounces, total 3311 85 ounces.—Yield of gold per ton crushed. From battery 14·21 dwts, from mill tailings 4·56 dwts, from concentrates 1·21 dwts., total 20·68 dwts. 2153·35 ounces from battery realised £7833 4s. 11d. 157 tons concentrates, equal to 176·15 ounces gold, realised £597 7s. 8d. 1708 tons tailings from mill, equal to 659 ounces gold, realised £2165 10s. 5d. 817 tons accumulated tailings from dam, equal to 323·35 ounces gold, realised £1029 6s. 10d. Total 1158·50 ounces gold, equal to £11,605 9s. 10d.—Cost of production. Mining 2838 tons at 9s. 11·4., equal to £1287 5s. Hauling and pumping 2838 tons at 1s. 9·07 d., £253 1s. Transport to mill 2838 tons at 6·11d., equal to £77 4s. 8d. Milling 2838 tons at 6s. 3.68. equal to £910 13s. 9d. General and extraordinary charges 2838 tons at 1s. 6·224., equal to £219 5s. 11d. Cyanide treatment 1858 tons at 5s. 11·06 d., equal to £550 2s. 13d. Treatment of accumulated tailings 912 tons at 5s. 10 93d., equal to £268 0s. 6d. Total, £3566 5s. 6d. Profit, £8039 4s. 4d. Extraordinary expenditure main shaft £39 10s. 3d., equal to £19 10s. 3d.—Other expenditure. Buildings £56 17s. 11d., equal to £56 17s. 11d.—John Jolly, managing director.

NEW CHIMES.—Statements showing the result of working for October, together with extracts from the manager's report for that month:—4046 tons milled.—Working expenditure. Mining and hauling £ 298 1s. 1d., transport and milling £ 45 10s. 5d., vanning £166 5s. 10d., maintenance £ 141 11s. 2d., general expenses £345 1 s, 7d., total working expenses £ 547 16s. 4d., expended on development £344 5s. 6 d., total £8932 1s. 7d.—Revenue. Native gold 923 ounces 17 dwts, net value £1190 17s. Tailings (23.0 tons treated) value 309 ounces 6 dwts, bullion won £582 7s. 9d., cost of treatment £402 2s.—Concentrates. Value 30 tons sold £109 5s. 4d, less expenses £57 9s. 8d. Balance—deficit £2879 3s 2 1. Total £8492 1s. 7d.—Capital expenditure. Main shaft, Chimes reef £233 2s. 6d., slimes dams £15 2s., buildings £38 9s. 9 d., total £336 5s. 3d.—Analysis of working expenses and revenue. Mining and hauling 14s. 9·29d. per ton, transport and milling 4s. 2·15d., vanning 9 8 5d., maintenance 5s. 10·68d., general expenses 1s. 8·50d., expended on development 4s. 8·01d., total working expenditure £1 12s. 1·09d. Native gold 15s. 9·27d., per ton, tailings 15·70d., concentrates 1s. 2·34d., total revenue 17s. 10·31., net loss 14s. 2·78 d. per ton.—Extracts from manager's report:—40 stamps ran 24 days 12 hours, quartz milled 4046 tons, tailings treated by cyanide process 2309 tons, smelted gold won in mill 923 ounces 17 dwts., bullion won from tailings 309 ounces 6 dwts., total output as declared 1233 ounces 3 dwts. Concentrates won (dry) 30 tons 10 lbs. Assay value of concentrates won per ton, 3 ounces 1 dwts. 10 grains. Rock stoped and hauled 5604 tons, rock rejected on the sorting floor 1613 tons, rock sent to mill 3998 tons. Driven on Chimes reef 78 feet, crosscuts driven 25 feet, sunk on Chimes reef 34 feet 6 inches, total footage for the month 245 feet 6 inches. The ore milled during the month has been of very low grade.—C. S. Hall, general manager.

METAL CIRCULARS.

MESSRS. JAMES LEWIS and SON'S mid-monthly report on copper dated Liverpool, December 16, says:—Copper. There has been but little variation in the price of good merchantable copper during the past fortnight, the usual dulness of this time of the year prevailing. From £48 15s. on the 2nd inst., the value of cash fell to £48 8s. 3d. on the 9th, subsequently recovering to £48 16s. 3d. on the 11th, declining to £48 10s. on the 14th, and closing to-day at £48 12s. The European consumption of copper continues on the same large scale as heretofore this year, and were it not for the greatly decreased consumption in the United States this year, as compared with last, stocks in Europe would now have been reduced to about a fortnight's consumption, notwithstanding the increase of nearly 35,000 tons in American production. At present there is no sign of European consumption diminishing, and the future of values will depend upon whether American consumption increases in a greater ratio than American production. Refined copper is about 12s. 6d. per ton lower, best selected ingots selling at £52 17s. 6d. delivered Birmingham. The London official quotation for "copper of best selected quality" is £51 17s. 6d to £52 17s. 6d., this including American cathodes, c.i.f. About 500 tons of Rio Tinto tough cake and best selected sold at £51 and £52 respectively, delivered at their works. Manufactured copper continues in good demand for home consumption, but there is little or no demand from India. The quotations for Lake copper in New York remains at 11·37½ to 11·50 cents per lb., though a sale of 1000 tons Calumet and Hecla is reported as having been recently made at 11·50 cents. for February and March delivery. The Board of Trade returns for the 11 months ending November 30 show the following results:—

	1895. Tons fine.		1896. Tons fine.
Imports into England	116,545	.....	122,673
Exports from England	59,758	.....	55,353
Differences	48,887	.....	67,320
In stocks, Jan. 1 to November 3	Decrease 8,128	Decrease	13,047
Apparent consumption in England (including sulphate of copper made and subsequently exported)	57,015	.....	80,367

The increased consumption of England this year is, therefore, 23,475 tons, or at the rate of 25,475 tons per annum.

The official German figures for the first ten months of the year are:—

	1895. Tons.		1896. Tons.
Import	37,468	.....	49,084
Export	6,987	.....	7,525
Consumption	30,581	.....	41,559

The increased consumption of Germany (exclusive of the copper obtained from their own mines and from pyrites imported) for 1896 is, therefore, at the rate of 13,174 tons per annum in excess of that of 1895.

The following shows the consumption of France for the eleven months ending November 30:—

	1895. Tons.		1896. Tons.
Shipments from United States	10,438	.....	19,823
" England	7,141	.....	4,255
Imports from other countries	10,909	.....	11,792
	28,488	.....	35,876
Difference in stocks, Jan. 1 to November 30 ..... Decrease	155	Increase	659
	28,343		35,217

An increase for the eleven months of 6874 tons, or at the rate of 7499 tons per annum.

The increased consumption of England, Germany, and France is, therefore, at the rate of 46,148 tons per annum.

To Italy, Austria, and Russia 5780 tons have been shipped from the U.S. for the eleven months, against 2757 tons last year—an increase of 3003 tons, or at the rate of 3276 tons per annum.

The apparent consumption of the United States for the past eleven months has been 21,449 tons less than during the corresponding eleven months of 1895.

Messrs. HARRINGTON and Co's copper report, dated Liverpool, December 16, states:—Chili charters for the past fortnight are cabled as 800 tons, making the total since December 31 last 22,400 tons against 21,250 tons same time last year. Exchange 17⅛d. Since our last issue about 11,300 tons G.M.B's have changed hands at from £41 16s. 3d. to £48 7s. 6d. cash and £49 10s. to £49 three months' prompt. During the greater part of the fortnight we have experienced an irregular and undecided market. On the 4th, 7th, and 8th inst. undue activity lent itself, owing to extensive purchases of three months at £49 7s. 6d. to £49 10s., on the part of some of the London dealers. This movement, however, did not enhance prices, and during the present week market has had a drooping tendency, and we close dull at £48 7s. 6d. cash and £49 three months prompt. To-day's fortnightly statistics show a further decrease of 319 tons in English and Continental stocks, and this, in face of the recent large American shipments which have been made the most of by those adverse to higher prices. Notwithstanding the decline in values here the American market continues steady at what we quoted last—viz., 11 37½ to 11·50 cents for Lake copper, and it is reported that 1000 tons of Calumet and Hecla copper have been sold at 11·50 cents for delivery February and March.

The following are the returns of the copper producers' committee:—

	November. Tons.	October. Tons.	11 months, January to November, 1896. Tons.	11 months, January to November, 1895. Tons.
European Production	7,108	7,297	78,684	78,265
American "	16,365	19,358	187,475	152,836
Total	23,473	26,655	266,159	231,101
American Exports	12,054	11,371	112,646	87,506

The total stocks in Liverpool, Swansea, London, and Havre are 30,215 tons, against 30,529 tons on the 1st inst. showing a decrease of 314 tons for the fortnight. The stocks include about 600 tons of copper sold, but not yet delivered to smelters. The visible supply for the fortnight is 34,465 tons, against 34,759 tons on the 1st inst., showing a decrease of 294 tons. Refined and manufactured sorts are steady, quotations being—Tough cake £51 10s. to £52, best select £51 17s. 6d. to £52 17s. 6d., Indian sheets £56 to £57, strong sheets £60, and yellow metal sheets 5¼d. per pound.

There are no sales of furnace material reported during the past fortnight.

	Tons fine.		Tons fine.	
Import of Chili copper during the past fortnight	602	against	965	same time last year.
Delivery of Chili copper during the past fortnight	1535	"	11.7	" " " "
Import of other copper during the past fortnight	1754	"	3172	" " " "
Delivery of other copper during the past fortnight	1760	"	2822	" " " "

The total imports of Chili and other copper into Liverpool and Swansea since January 1 have been 80,009 tons; deliveries during the same period 95,117 tons fine; for same time last year the figures were 63,751 and 68,730 respectively.

Quotations are:—	To-day.	Dec. 1, 1896.
Chili bars	£48 7s. 6d. cash and £49 0s. 0d. 3 months	£48 16s. 3d. cash and £49 7s. 6d. 3 months
" ore	9s. 8½d. to 10s. 1½d.	9s. 6d. to 10s. 1½d.
" regulus or matte		
Precipitate	10s. 4¼d.	10s. 4½d.

Tin.—Since our last the market for cash Straits has fluctuated between £58 9s. 3d. and £57 15s., closing to-day at the latter, Australian £59 10s., English £62 to £62 10s., and Peruvian £48 to £56, according to quality.—Sulphate of copper. Makers price £17 10s. cash and £18 forward. Lead during the past fortnight has been steady, closing firm at £11 10s. to £11 11s. 3d. for Spanish, and £11 15s. for English.—Spelter. The market since our last has been easier, closing steady at £17 8s. 9d. to £17 11s. 3d. for ordinary Silesian brands.—Quicksilver. Since our last the market has been quiet at £6 11s. to £6 10s. 6d. per bottle for Spanish.—Bar silver. Prices have fluctuated between 29⅞d. and 30d. per ounce, closing to-day at the latter. Antimony firm, star regulus at £30 to £31 per ton. Ore irregular, about £3 for 50 per cent. good quality and produce. Bank rate of discount remains at 4 per cent.

Messrs. HENRY BATH and SON'S copper report, dated December 17, has the following:—The Chili charters for the first half of this month are advised as 800 tons. The latest exchange is 17⅛d. The amount of business passing has been small, and prices have fluctuated between £48 15s. and £48 7s. 6d. cash, while for forward copper a contango of 12s. 6d. has ruled throughout, the market closing last night at £48 7s. 6d. cash and £49 three months. Buyers and sellers near. This morning the market was quiet, closing at £48 5s. cash, £48 7s. 6d. forward, with rather sellers. The price of Lake copper in New York was put down 12½ points for a day or two in the middle of the fortnight, but is again at 11·37½ to 11·50, the market being described as firm but quiet. The exports from the United States have again been on a very heavy scale, 6076 tons for the fortnight, and whilst this rate is maintained we cannot look for much improvement on this side. The European consumption has so far been able to deal without much difficulty with the abnormal supplies; in fact, the absorption this year has been quite phenomenal, for we find from the official returns of the producers that the United States have exported up to the end of November 112,126 tons, against 57,595 tons last year, an increase of 55,141 tons, whilst during the same period the public stocks in Europe have been reduced to the extent of 12,702 tons. The increased supplies have come almost entirely from the United States, their production so far this year being 187,475 tons, against 156,522 tons last year, an increase of 30,953 tons. Comparing this with their increased exports of 55,141 tons, it seems pretty evident that their own requirements have fallen off to the extent of 24,188 tons or about 25 per cent. Local disturbances during the past year would fully account for such even a heavy falling off in trade, but with their removal we may reasonably expect to see the United States making up for the slackness of the past, if not participating to a large extent in the commercial development of all industries requiring copper which has been so remarkable in Europe of late. The effect of such a revival needs no comment. The arrivals and deliveries at Hamburg, Rotterdam and Antwerp during the past fortnight amount to about 1621 tons. The imports of American copper into England have been 2018 tons and into France 1245 tons or 3263 tons against 1172 tons last year. Total actual deliveries are 6024 tons against 5710 tons imports. The stocks have decreased 314 tons. Total visible supply shows 34,465 tons against 34,779 tons last fortnight. There are no transactions in furnace material to report.

England and France.	Imports.	D'liv'r's.	Stocks	Afloat & Chartered for.	Total visible supply.
Chili copper at Liverpool, Swansea, and in France	972	1,975	22,715	2,950	25,665
Foreign copper in London, chiefly Australian and Japanese	824	807	1,932	1,300	3,232
American copper at Liverpool, London, and Swansea	2,018	1,925	1,976	—	1,976
Other copper at Liverpool and Swansea	596	631	639	—	639
English copper at Liverpool and Swansea	—	26	990	—	990
American copper in France	1,285	570	1,712	—	1,712
Other copper in France	35	130	221	—	221
Tons fine copper during the fortnight	5,719	6,024	30,215	4,250	34,465
Against tons on Dec. 12, 1893	7,589	8,387	30,529	4,250	34,779
Against tons on Nov. 13, 1896	6,367	5,361	31,347	4,250	35,597

	1891	1890	1889	1888	1887
Total visible supply, Dec. 17	53,463	63,593	99,017	98,940	43,565
Price of Chili bars same date	£45	£53 17/6	£49 5/	£77 12/6	£90 5/
	Tons fine.	Tons fine.	Tons fine.	Tons fine.	Tons fine.
	1891.	1890.	1889.	1888.	1887.
Imports from Chili and Bolivia from January 1 to date	17,983	24,334	23,531	30,593	28,382
Imports from America from January 1 to date	37,199	19,947	28,440	30,170	19,356

The shipments to Europe from America from January 1 to date are 115,808 tons, as against 59,275 for corresponding period last year.

The shipments afloat from America are estimated at 3500 tons.

Quotations for West Coast copper are as follows:—

	To-day.	Dec. 17, 1895.	Dec. 18, 1894.	Dec. 19, 1893.	Dec. 19, 1892.
Ores	9/3 to 10/3	8/7½	8/	8/6½	9/6
Regulus					
Bars	£48 5/	£43 12/6	£40 15/	£43 2/6	£46 15/
Ingots, Urmeneta	Nom.	Nom.	Nom.	£46 15/	£52 5/
Precipitate	about 10/ to 11/	about 9/1½	8/7½	about 8/9	9/10½

For other descriptions we quote to-day:—Wallaroo nominal. Burra Burra nominal. Best selected about £53 to £53 10s. English tough about £52 to £52 10s. English manufactured about £60. India sheets about £55. G.M.B. copper £48 5s. cash, and £49 17s. 6d. three months.—Sulphate of copper. About £17 to £17 10s. cash, and £17 10s. to £18 forward.—Tin. Quiet. Closing at £57 12s. 6d. cash, £58 10s. three months.—Spelter firm. £17 10s. English about £18 2s. 6d. Blende of 50 per cent. is worth about £4 9s., and Calamine about £4 11s. 6d.—Lead. Firm. £11 10s. With silver 50 to 80 ounces about £11 15s. Lead ore of 70 per cent. is worth about £5 per ton.—Pig iron. Closing quotations for Scotch pigs are 43s. 3d. Middlesborough 40s. 3d. Hematite 50s. 3d. cash.—Antimony. Quiet. Star regulus about £29 10s. to £30. Ore £8 5s. to £8 10s. for 50 per cent. good quality and produce. Crude about £13 10s. per ton.—Quicksilver. Official price £6 12s. 6d., Seconds 2s. 6d. less.—Bar silver, 30d. per ounce standard.—Discount. The Bank rate remains at 4 per cent.

THE GOLD FIELDS OF THE HAURAKI PENINSULA, NEW ZEALAND.*

By the Rev. JOSEPH CAMPBELL.

(*Concluded from Page* 1635.)

Coromandel County.

THE Hauraki and the Kapanga Gold Mines are probably the best known properties at Coromandel. The former because of the large returns which caused a revival of mining, the latter because the first discovery of gold in New Zealand was made on this property, and also because of its being the deepest mine in New Zealand, the main shaft being 1007 feet deep. The reef runs north and south, and has a dip 65° west. At a depth of 940 feet a band of complex ore, chiefly iron pyrites, 2 feet wide, cuts across the reef. The value of this ore is £3 per ton, but owing to the supposed difficulty of treatment nothing is being done with it at present, though it is possible by the thermo hyperphoric method to extract 95 per cent. of the assay value at the cost of a few shillings per ton.

On this field the writer noticed three distinct formations, and the deep shaft at the Kapanga Gold Mine gave him an excellent opportunity of making a careful geological examination. Beneath the rhyolitic lavas which here abound, as at Waihi, lie a series of rocks which are basic in character; at first time in texture, but becoming more coarsely brecciated as they descend in depth. At 900 feet they are acidic, having become so by the elimination of the basic elements. (The water which permeates the lower rock is still acidulous, rapidly turning litmus paper red and attacking the nails of the miners' boots.) These rocks are clearly fragmental or elastic rocks which decomposed in angular fragments when exposed at the original surface, and were not, the writer thinks, laid down under water as tufaceous rocks as is generally supposed. They are of a greenish colour, the colouration being caused by silicate of iron due to the decomposition of the hornblende. They appear to overlie cretaceous rocks.

The value of the gold from the Kapanga Mine is £2 18s. per ounce, and it is to so large an extent free that with the present appliances all but 3 dwts. per ton is recovered. This mine and the Scotty, which joins it on the north, and the Hauraki, are certainly among the most promising properties in Coromandel County. Between the Kapanga and the Hauraki lies Blagrove's Freehold Mine, and 1 mile to the south of the township lies the Preece's Point Mine. These and others that might be mentioned are valuable mines, and the writer thinks that the district has a prosperous future before it.

Reference has before been made to one of the parent reefs on this field. A favourable spot for examining this reef occurs on the ground of the Triumph (Hauraki) Gold Mine, in the Tokatea district, where it runs north-west by south-east. It assays traces of gold, and from it the payable reefs shoot laterally. These reefs do not run into the altered sedimentary rocks, but are confined to the igneous rocks. Here, as in most parts of the Hauraki gold fields, the auriferous quartz is peculiar, as being hydrated, and containing numerous masses of beautiful minute crystals; and the bulk stone is so similar that it is impossible to tell from which mine individual samples come. All the stone in Coromandel is regarded as free-milling ore, excepting the Union Beach Gold Mine, but some of the ore contains dark patches which, the writer finds, contains some combined gold, and which, of course, is not saved by ordinary battery methods.

In the Coromandel County the Success is the phenomenal mine as regards the occurrence of the gold, which is met with in places from 1-32 inch in thickness to less, in a kind of pug-vein or siliceous belt of plastic hydrated quartz from which the gold may be panned out. For years this mine has been worked without a battery, the auriferous material being sent to a neighbouring mill. A battery is now being erected, though at a considerable cost, the carriage of the machinery from the landing place to the mine costing £7 10s. per ton owing to the steepness of the mountains on which the mine is situated and the extreme difficulty of making a good track for the teams to pass over.

Other important properties in the Coromandel County lie in the Cabbage Bay, Kennedy Bay, and Kuaotunu districts. In the last-named district are situated the well known Try Fluke and Rapai-Vermont Gold Mines.

There is still a very large area of auriferous country in the Hauraki Peninsula, which is absolutely unexplored, and in which the writer has not the slightest hesitation in predicting that reefs as valuable as any that have been developed will be found, and he would very much like to see parties under competent engineers exploring these hitherto untrodden areas. It is an enterprise which in the near future would meet with abundant reward, and as those who are first in the field will stand the best chance no time should be lost.

Treatment of Refractory Ores.

The writer has several times in the course of this paper referred to the abundance of refractory ores which exist in the gold fields of the Hauraki peninsula; and there is no doubt that the treatment of these is one of the greatest questions of modern mining enterprise.

It is well known that by reason of the presence of these base metals the cyanide process which has been efficaciously applied in so many parts, not only of New Zealand, but of the world, absolutely fails in dealing with these ores. Many metallurgists, however, claim to have solved the problem; and among the proposed methods of dealing with such ores must be mentioned those invented by Mr. A. Gordon French and Mr. James Park.

In Mr. French's system the ore is dried, crushed, and then roasted in a revolving reverberatory furnace, with a little salt to chloridise the metals. The salt is intimately mixed with the ore previous to its being put into the furnace. The roasted ore is then subjected to chlorination, and, after leaching, the gold in solution is precipitated by sulphate of iron, while the solution goes into a tank containing scrap iron, where the copper is deposited. The silver in the ore, after leaching out the gold solution, is then leached out with hyposulphite of sodium on the same principle as the Russell process.

Mr. Park adopts the same method of roasting and chloridising the ore, and then leaches it with water to extract the whole of the copper, which, being in the form of a chloride, is soluble. It is then subjected to a cyanide solution to extract the gold and silver.

The Thermo Hyperphoric Process.—The writer has devoted some years of very careful study to the treatment of gold ores, with the result that he also has invented a process which extracts 95 per cent. of the gold assay value of any ore. To this treatment he has given the name "thermo hyperphoric," a term derived from two Greek words which accurately describe the operation. The first word signifies that heat is employed, and the second that the result of the treatment is the elimination of all base elements that interfere with the amalgamation of the gold with mercury. Briefly, it consists in the application to refractory gold and silver, and other metal-bearing ores, of the well-known water gas, which is made by passing steam over red hot charcoal, or coke in closed retorts. 100 lbs. of steam passing over 66⅔ lbs. of charcoal produce 11 lbs. of hydrogen (H) and 155⅓ lbs. of carbonic oxide (CO); but, owing to the lightness of the hydrogen, the volumes of the two gases are equal. These two gases are great reducers, and when mixed act more powerfully than in the single state; hence, when allowed to permeate the refractory ore, which is broken to the size of walnuts by means of a stone-breaker, and heated to 1200° Fahr. in closed retorts or furnaces, all the sulphur, arsenic, tellurium, or other base elements are removed, and the ore becomes a free-milling ore. In order that the writer might show that the system could be applied on a large scale in a profitable way, he erected a complete plant on the Walter Scott Gold Mine, Cangai, New South Wales, and from 150 tons of ore, containing an admixture of 16 per cent. of arsenic, sulphur, zinc, galena, and copper and iron pyrites, an ore from which only 12 dwts. per ton could be saved by ordinary methods, the writer, by his process, extracted 1¼ ounces, or 95 per cent. of the gold assay value. And he met with the same success in dealing with large quantities of the refractory ores of the Hauraki gold fields, which ores contained, among other matters, telluride of gold. To quote from the patent specification:—

"The positive results of the treatment of the ore or material by water gas in (closed chambers or retorts are—(*a*) The ore or material becomes exceedingly friable, much more so than the best roasted quartz from open kilns, and may be easily broken by hand—thus the use of lighter stamps is permitted and easier grinding effected. (*b*) The auriferous particles are changed in form to a globular or approximately globular condition (the more minute the metallic particles the more perfect the spheroidal shape). The gold in this spheroidal form is less acted on by water in the amalgamating process, and hence the loss in the form of float gold is reduced to a minimum. (*c*) The base materials with which the gold is chemically or mechanically combined or coated—namely, sulphur, arsenic, tellurium, antimony, bismuth, zinc, lead, iron, and copper pyrites, iron oxide, &c., are eliminated, and leave the gold perfectly free for amalgamation. In addition to this, by means of flues and suitable chambers, bye products may be saved and so reduce the cost of treatment."*

On small mines, the writer proposes to erect a bench of retorts built of fire brick, but somewhat similar in form to those used in gas manufactories, and having the water gas making retorts built in the bench. The capacity of this furnace would be 40 tons per week, and the cost of erection of the complete plant about £2500. But on large mines, he would recommend a furnace of peculiar construction, with separate retorts and gasometers, for the manufacture and storage of the water-gas, and a new form of amalgamator. This furnace could be capable of treating 100 tons a day, and the cost of the complete plant would be about £6000. The actual cost of treating the ore with the small plant, varies from 1s. to 5s. per ton in addition to the ordinary battery treatment; but with the large plant the total cost of treating and amalgamating would not exceed 4s. per ton.

Conclusion.

In concluding a somewhat fragmentary paper on the gold fields of the Hauraki peninsula, the writer does not hesitate to say that if it should fall into the hands of the New Zealand people it will not give universal satisfaction, because it will be considered that he has not given sufficient prominence to many mines. But in common justice, the writer feels that they will all acknowledge that, so far as he has gone, he has dealt fairly, even generously, with the gold fields as a whole. It must also be borne in mind that the writer has dealt with the gold fields in general terms from a scientific as well as a practical standpoint. He has only written what he knows and what he has seen, and he ventures to express the hope that his opinions may be acceptable to those to whom they are now communicated.

* No. 26,797, 1896.

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* From a paper read before the North of England Institute of Mining and Mechanical Engineers, and published in the Transactions of the Federated Institutions of Mining Engineers.

TURQUOISE MINES.—American advices state that some very fine specimens of turquoise have been found in New Mexico. Development has been going on for about three years in a small way, but the stones found there were not equal in quality to those mined in the Burro Mountains. The stones which were taken out of the new mine are said to equal the specimens from the Burro Mountain mines.

The secretary of the ISLE OF MAN MINING COMPANY (LIMITED) has sold 100 tons of this company's ore at £9 14s. per ton.

MEETINGS OF MINING COMPANIES.

NORTH CHARTERLAND EXPLORATION COMPANY (LIMITED).

The second ordinary general meeting of this company was held at Winchester House, on Monday.—Sir F. Young, who presided, in moving the adoption of the report and accounts, said that at the last meeting the directors stated that they had entered into negotiations for the sale to a syndicate of a part of the property on what appeared to be very advantageous terms. After much delay on the part of the syndicate, and, owing to their inability to fulfil the terms of their contract, it was thought expedient to terminate the negotiations. Since then they had been approached by several strong concerns for sub-concessions, and the directors believed that they would be able to obtain better terms on the sale of concessions as soon as confidence in the country was restored, and that could only be a question of time. They had also been much occupied with the important subject of administration and police protection, and it was understood that the latter question was about to be settled by the Government, probably by taking over the police administration of the company. That result had not been brought about without a great amount of time and labour being expended by the directors. It was essential that some efficient protection should be afforded to their pioneer expedition and the staff, and also to the white population, which they anticipated would settle in the country in the future. Several agencies had also been established, necessary for the interests of the country, and arrangements entered into for trading in rubber, ivory, gums, fibres, hides, and beeswax. With regard to the country's mineral resources, the directors were satisfied that extensive gold-bearing deposits existed, and while they were of opinion that they would well pay for working, it was as yet premature to say more on the subject. At the same time the board was well satisfied with the progress that the mining staff had made in their prospective work. As to the accounts, he said they still had a balance in hand of £21,000, exclusive of somewhat considerable outstanding calls, so that the directors saw no necessity for at present making any call on the shareholders, nor did they anticipate that any such necessity was likely to arise in the near future.—Colonel Warton, administrator and managing director in Africa, afterwards gave an interesting description of the country and of its resources, and remarked that the relations of the company with the Portuguese Government and the Zambesi Company had been most satisfactory, and he did not think that if the expedition had passed through British property they could have found more willing assistance and more ready co-operation.—The report was adopted.

HARQUAHALA GOLD MINING COMPANY (LIMITED).

The third annual general meeting of the shareholders in the Harquahala Gold Mining Company (Limited) was held at Winchester House, E.C., on Monday, Mr. Francis Muir presiding.—In moving the adoption of the report and accounts, the Chairman stated that during the year they recovered from the Harquahala Mine bullion to the value of £30,000, while the cost had been £16,500. With the available surplus they had acquired and opened up a property at Kalgoorlie, in West Australia, the cost of which had been £10,300. The unexpended capital on June 30 amounted to £8000, and the total resources of the company were £12,000, of which £2750 was invested in stores and supplies. Since that date and up till the end of November a further sum of £5000 net had been recovered from Harquahala, and as a further sum of £2250 had been expended at Kalgoorlie the present resources of the company were about £14,000. During the past year 42,730 tons of tailings were treated by the MacArthur Forrest process, and 1715 tons of ore were crushed. The treatment of the tailings had, on the whole, been quite satisfactory. However, in the latter portion of the year the tailing beds were found to be considerably impregnated with copper, but the difficulty had been overcome, and a return to more satisfactory results obtained. From the quantity of tailings that still remained to be treated about 20,000 tons of slimes had to be deducted. These slimes could not be profitably treated by the present cyanide plant, and the directors were taking steps to deal with them by another process. At the present time the mine was being worked on tribute, and with very good success. What would be done with the property after the tailings were disposed of had not been decided. As to the West Australian venture, unfortunately the very glowing reports which they received before making the purchase had not in any way been borne out, but recent developments had been of a more favourable character, although no large bodies of rich ore had yet been discovered. In regard to the future, it was proposed first to clean up the tailings at Harquahala; and, secondly, to develop the Kalgoorlie Mine as long as it was worth the expenditure. In the meantime, Mr. Raymond, the manager, had instructions to look out for another property in West Australia, and, possibly, by this means, there might even yet be a chance of retrieving the fortunes of the company.—Mr. Hart seconded the motion, and it was agreed to.—The retiring directors, Mr. J. W. Hart and the Hon. W. C. Pepys, were re-elected; as also were the auditors, Messrs. Bull, Baker, Leed, Cornish, and Co.; and votes of thanks to the management, both in Australia and in Arizona, and to the Chairman, concluded the meeting.

LONDONDERRY EXTENDED GOLD MINING AND EXPLORATION COMPANY (LIMITED).

Mr. W. H. Dacre Tyler, presiding over the second ordinary meeting of this company, held on Saturday last, at Winchester House, stated that the directors had done everything in their power to further the interests of the shareholders, and they would continue to exercise the same watchfulness, in the firm belief that the property was worthy of development and prudent expenditure. The promising nature of the surface ground did not continue to an appreciable depth; and they were advised that the ground must turn out better when it was exploited at a greater distance perpendicularly from the top. They had simply discovered what most companies in the neighbourhood had found out—that the payable gold-bearing strata in the Londonderry district, whatever the indications in the early development might have been, lay "deep down" below the surface. The expenses were being kept down to the lowest point; economy just now was their sheet anchor. The vendor had agreed to make over to the company, free of charge, another block of claims situated in the Hannan's district, and these were likely to prove of considerable value. They would thus have two properties instead of one, and it might be that the misfortunes attending their labours at the Londonderry Mine would turn out to their material advantage. The cash assets were over £8000, which were considered ample to prove and develop the property, so that the shareholders would not be called together to reconstruct. He entertained no doubt that when they next met the directors would be able to give a good account of their stewardship. He moved the adoption of the report, which was carried unanimously.

BRITISH WESTRALIAN MINES AND SHARE CORPORATION (LIMITED).

The first annual meeting of the members of the British Westralian Mines and Share Corporation (Limited) was held on Monday, at Winchester House, E.C., Mr. A. E. Goodchild presiding.—The Chairman explained that owing to the absence of the necessary particulars and vouchers, which had not yet arrived from Coolgardie, the accounts had not yet been audited, and, therefore, it was proposed that the meeting be adjourned. He was pleased to say that the progress of the company was very satisfactory.—A resolution to adjourn the meeting was then put and carried.

LONDON WESTRALIAN MINES AND FINANCE COMPANY (LIMITED).

The first annual meeting of the shareholders in the London and Westralian Mines and Finance Company (Limited) was held on Monday at Winchester House, E.C., when the Chairman (Mr. A. E. Goodchild) explained that the directors were unable to present the audited accounts of the company, inasmuch as that they had not been furnished with the necessary particulars and vouchers from Coolgardie. In consequence of this they proposed that the meeting should be adjourned until they were in possession of the particulars required. With regard to the position of the company, in addition to the successful flotation of the North Star Mines, the manager had reported that the developments on one of the other properties were so satisfactory that the directors had ordered the immediate erection of a 10 stamp battery.—The meeting was then adjourned.

HANNAN'S 100 ACRES (LIMITED).

The second ordinary meeting of the members of Hannan's 100 Acres (Limited) was held at Winchester House, E.C., on Monday, Mr. W. Lonsdale presiding.—In moving the adoption of the report and accounts, the Chairman said in lease 1108 a lode had been met containing visible gold, and estimated to be worth 1 ounce to the ton. Several rich reefs were believed to run through the property, while the water question had caused them no trouble at all. Their working capital had been increased to £25,000, and at present they had £15,000 with which to proceed with their operations.—Mr. Aarons seconded the resolution, and it was carried.

WEST AUSTRALIAN TRADING AND EXPLORATION COMPANY (LIMITED).

The ordinary general meeting of the West Australian Trading and Exploration Company (Limited) was held last Saturday, at the offices, 18, Walbrook, E.C., under the presidency of Mr. Duncan Davidson (the Chairman of the company).—The Chairman, in moving the adoption of the report and accounts, commented upon the necessity of having a large working capital if the company was to make headway against the competition of the large trading companies and private firms. At the same time, there was plenty of room for all in Australia, and the company had proved that judiciously selected goods could always be disposed of at a profit. The company had been excessively fortunate in this respect, and the goods which they had sent out to the colony had always been in demand and easily sold. The company was, however, an exploration, as well as a trading, concern, and some time ago, on the strong representation of their local manager, they acquired certain properties in Yalgoo, on which a considerable sum of money was spent in development. Good reports were received of the property, and eventually the company sold it to the Yalgoo Proprietary Gold Mines (Limited), making a handsome profit in shares over the transaction. Some excellent properties had also been acquired in the Black Flag district, which had virtually been sold at a good profit when the slump occurred in the city, so that no one would look at a West Australian property, no matter who reported on it. The company had, in addition, several blocks of land in the main street of Yalgoo Town, and one block at Londonderry. If these properties should grow in value at the rate they had been growing during the past year, there was no doubt that a considerable profit would be realised upon the sale of them.—Captain Hunter, R.N., seconded the motion for the adoption of the report and accounts, which was carried unanimously, and the meeting adjourned until the arrival of the accounts from Australia.

NEW BELGIUM (TRANSVAAL) LAND AND DEVELOPMENT COMPANY (LIMITED).

The ordinary general meeting of the shareholders in the New Belgium (Transvaal) Land and Development Company (Limited) was held on Monday, at the Cannon-street Hotel, Mr. Edward Webb presiding.—In moving the adoption of the report and accounts, the Chairman said prospecting in the Transvaal at the present moment was very costly on account of the heavy transport charges. The chief trouble was the rinderpest.—Mr. Henry Pasteur seconded the resolution.—Replying to questions the Chairman said they had not yet proved that their property contained mineral wealth in spite of the large amount of prospecting work that had been done. If they wished to discover gold they must organise prospecting parties, which was a very expensive matter, and, therefore, they had discontinued exploring the Kleindenteren property for the present.—The resolution was then put and carried.

HOLTON LAND AND MINING COMPANY (LIMITED).

The second ordinary general meeting of the shareholders in the Holton Land and Mining Company (Limited) was held at the Cannon-street Hotel on Monday, the Earl of Essex presiding.—In moving the adoption of the report the Chairman explained that in consequence of the recent events in South Africa their progress had been retarded. He believed, however, that when railway communication was established they would be in a position to rapidly develop their property.—Captain Hoste, the managing director, dealt in detail with the various holdings of the company. The Simoona claims promised very well, while of the Asp group he had a very good opinion. A rough assay made of the quartz on the latter property average from 2½ ounces to 10 dwts. The Thornhill and Tat reefs were situated in the Mazoe district and promised very well. Other properties owned by them were the Dick, Harvester, Lo Magundi, Main Reef, Aura, Bora, Shaver, Wanderer, and the Tetsi.—The report was adopted.

NORTH FINGALL REEFS (LIMITED).

The ordinary general meeting of the shareholders in the North Fingall Reefs (Limited) was held on Monday, at the Cannon-street Hotel, when the the Chairman (Colonel Parry Nisbet) stated that the original property of the company having proved a failure another one—called the Champions Leases, and situate in the North Coolgardie district—had been secured. Messrs. Bewick, Moreing, and Co., the company's consulting engineers, gave it as their opinion that, considering the size of the reefs, the favourable conditions of working, and the fairly high assay returns obtained, that the property could be safely recommended on a three months' working option. A four months' working option had been taken, and the purchase would only be completed if at the end of that period the present prospects still held good. Should the property prove to be worth taking over the Great Fingall Reefs (Limited), the vendors of the company's original property, had offered them as a gift a 30 stamp mill which they had on their first property. He then proposed the adoption of the report and accounts.—Colonel Thrupp seconded the motion, and it was agreed to.

WATERFALL ESTATE AND GOLD MINES (LIMITED).

The ordinary general meeting of the shareholders in the Waterfall Estate and Gold Mines (Limited) was held on Monday, at Winchester House, E.C., Mr. R. Bensuson presiding.—The Chairman, in moving the adoption of the report and accounts, stated that although the lawsuit in which the company was engaged had not yet been settled, they were able to declare a small dividend. Their claims had been "jumped," and until they secured possession again they could not form the subsidiary company they proposed to. There could be no doubt as to the value of the claims. As to their financial position, they had under their control £10,000; while, in addition, they had the Mynpacht and the Homestead Block, the latter entitling the company to hold approximately 100 acres for standing licences and other purposes.—Mr. F. W. Thomas seconded the motion, and it was agreed to.

EMMA COMPANY (LIMITED).

The ordinary general meeting of the shareholders in the Emma Company (Limited) took place at the Cannon-street Hotel, on Monday, when the Chairman (Mr. H. J. Campbell), after explaining the various items in the accounts, said immediately on the purchase of the Pebbles property, the Hannan's Gold Pebbles Company was floated to work it. The mine had already been extensively developed with very satisfactory results, and a crushing plant was at present in course of erection. He moved the adoption of the report and balance-sheet.—Mr. S. Lamy seconded the motion, and it was agreed to.

THE LYDENBURG (TRANSVAAL) GOLD EXPLORATION COMPANY (LIMITED).

The second ordinary general meeting of this company was held on Monday, at the Cannon-street Hotel. The Chairman aMr. Nicol Brown), in moving the adoption of the report and cccounts, stated that the company had an available cash (apital of over £32,000. He proceeded to review the work done on the property, and remarked that the principal area of their farms was occupied by the dolomite limestone. To the west of this and overlying the dolomite there was a series of sandstones and shales which was usually known as the upper sandstone, and underlying the dolomite limestone to the east there was a series of sandstones usually known as the lower or Berg sandstones. In the upper sandstones and shales some gold-bearing deposits had been found in the Blyde Valley, but none of them had been worked profitably as yet to any great extent. In the dolomite limestone the principal deposit, which had hitherto given the best results in the districts, was found about 100 feet below the junction of the dolomite limestone with the shales. This great deposit was known as the Theta. It was believed to be on this deposit that Mr. Woodburn had been recently working, and although the assays had been varying in their character he (the Chairman) felt quite hopeful that he was now working on a deposit which was the geological equivalent of the great Theta seam, or, perhaps, even the actual extension of what was now being worked at Ponieskrantz and at Frankfort. The approximate length of the outcrop was about 30 miles. The actual length of the outcrop of dolomite limestone in the trend, including outliers, was some 13 miles within their property. In conclusion, the Chairman stated that it was his intention to visit the property next year along with their engineer-director, Mr. Elwes, and he hoped that by that time sufficient work would have been done to enable them to fix upon a plan, in conjunction with Mr. Woodburn, for the working of the property to its fullest advantage.—Mr. F. C. Holland seconded the motion, which was carried unanimously.

THE WESTRALIAN PREMIER GOLD MINES (LIMITED).

The second ordinary general meeting of this company was held on Monday, at the Cannon-street Hotel, under the presidency of Mr. Nicol Brown.—The Chairman moved the adoption of the report and accounts, and remarked that very favourable reports led to the formation of the company. The indications of the mine from the very first had been that it was worth a trial, and as it was paid for by deferred shares the arrangement was a perfectly fair one. Work was now centred on the main shaft, which, by latest advices, was down 92 feet, and it was hoped it would be down 200 feet early next year. It was very fortunate for the company that the management was placed in the hands of Professor William Nicholas. At first he was not very hopeful of the result, but in June he saw his way to recommend the sinking of the main shaft, and his reports gave them reasonable hopes of the pay shoot continuing in depth. If these hopes proved delusive, they would have sufficient money left to prospect any more promising claim which they might be able to find for the benefit of the shareholders. The shareholders were already fully acquainted with what had been done in the way of reducing the proportion of shares held by the vendors from 6-7ths to 4-7ths. The vendors had behaved very well in the matter, and it was probable that in the event of the mine proving unsuccessful they would be willing to make a further concession, probably by giving some of the remaining shares in payment for a new claim. This would only be right, as if they abandoned the present claim and took up a new one with contributing shareholders' money, and it proved of value, the vendors' shares would acquire a value from the possession of property for which they had not been given in exchange. The vendors had expressed themselves satisfied with the way Professor Nicholas had opened out the mine.—Mr. C. B. Dobson seconded the motion, which was carried unanimously.

SOUTH KALGURLI GOLD MINING COMPANY (LIMITED).

The ordinary general meeting of the shareholders in the South Kalgurlie Gold Mining Company (Limited) was held on Monday, at Winchester House, E.C., when Mr. J. G. Smith, who presided, formally moved the adoption of the report and accounts, and explained that for some reason he was quite unable to divine the Chairman was absent. Consequently he was not in a position to give them any other information than that contained in the report.—Mr. Cutliffe seconded the motion, and it was agreed to.

NORTH CRŒSUS GOLD MINE.

The second ordinary meeting of this company was held at Winchester House on Tuesday.—Sir W. G. Davies, who moved the adoption of the report, said: Though considerable work had been done in the way of development, no payable gold-bearing ore had been found in sufficient quantities and in a permanent form, but, as stated in the report, there were good reasons for believing that some at least of the rich formations found in the surrounding properties would be met with in the North Crœsus by deeper sinking. The richest find in the adjoining properties was tellurido ore, a sample of which, on being assayed, gave 3 ounces 10 dwts. of free gold per ton, while on being smelted it showed 478 ounces to the ton.—Mr. A Quintin Twiss seconded the motion, which was adopted.

THE ROBINSON (SOUTH AFRICAN) BANKING COMPANY (LIMITED) notify that the transfer books of the Langlaagte Estate and Gold Mining Company (Limited) will be closed from January 1 to 7 inclusive.

GOLD MINING IN ONTARIO.

(FROM OUR OWN CORRESPONDENT.)

It is not to be wondered at, in a country where mining operations can be carried on under such economical conditions, that the fame of Ontario's gold fields continues to go abroad in the world, and attract the attention of capitalists everywhere. The French Government has dispatched two expert mining engineers to Ontario and British Columbia to visit and report on the various gold district. Many reports are abroad concerning Mr. Barnato, of South African fame, whose agent is reported to have bought up 50 free milling gold properties in Algoma (Ontario) to place on the London market. A denial of the report has been cabled by Mr. Barnato, but this does not count for much, as, naturally, he is too cute to tell all the world what he is about, and a report that the Bank of Montreal has been chosen by him, through which the purchase money is to be paid over, may lend some truth to the matter. However, it is to be hoped that the report is true; money is hard to get in Canada for gold mining purposes, and it is most desirable that a man like Barnato, with ample capital at his back, should come in and develop a rich gold region that has been permitted to remain dormant so long. The London Exploration Company, which is controlled by the Rothschilds, has also a representative here, who, it is said, will examine some gold properties in Ontario of which the Rothschild's are considering the purchase. The foregoing plainly shows that the foreign and British capital is directed towards Ontario, in spite of the wish of a few narrow-minded Canadians, who, now that foreign enterprise and capital has shown them that they possess valuable gold fields, are raising the cry, "Canada for the Canadians." I heard the other day that it is the intention of some members of the British Columbian Legislature, at its next Session, to bring forward a Bill to prevent aliens from locating mineral ground in the province. I give this report for what it is worth, for such a move is too foolish to be considered seriously. Had it not been for enterprising Britishers and Americans the wealth of Rossland, Kootenay, and Ontario would probably have been unknown to this day. They have done the pioneer work in Canada, have borne the brunt of all the privation, discouragement, and toil, when other men predicted failure, and are surely entitled to enjoy all the advantages of first comers and first owners. It should be the policy of Canadians to welcome such men as Barnato, Rothschild, and others; the country wants them, and the immense resources of Ontario cannot be developed without the aid of their capital.

With the forthcoming spring, gold mining in Ontario will assume immense proportions. The districts to which the attention of British investors will be drawn are the Seine River, Lake of the Woods, Rainy River, and Thunder Bay, and the larger portion of Ontario's gold contribution to the world's supply will be obtained from this part of the province. From Rat Portage on the C. P. R. to Port Arthur is 300 miles, and between this part of Ontario and the boundary line may roughly be said to average 80 miles; therefore, the gold region of Ontario may be said to represent a tract of country 300 miles by 80. There are numerous auriferous veins scattered throughout the region awaiting capital to wrest the riches from them, and the day is not far distant when the merry sound of the stamps will be heard in every direction. When one considers the advantages Ontario possesses over British Columbia, where the ore has to undergo a costly process before the gold can be separated; Western Australia, with its absence of water and timber, and South Africa with its political troubles, it must be conceded generally that this is a specially favoured country. Here the prospector can accomplish his journey from point to point by canoe, having to make a few postages probably in the day's journey, or, if he likes, he may travel for many miles, if necessary, without leaving his craft. There is an abundance of good timber to hand, and the whole region is cut up into waterways, rivers, and lakes. Another advantage which Ontario possesses over other countries is with regard to the treatment of ores. Take, for example, British Columbia; there they are compelled to erect costly smelting works before they are able to separate the gold, and to employ skill of high order, and pay high prices for supplies, transport, and labour. In Ontario the ore is for the most part free milling, the process much simpler and cheaper, as well as more expeditious. Often 90 per cent. of it is free, and may be obtained by stamping and amalgamation, and a stamp mill, with a capacity for treating 20 to 25 tons of ore per day, may be erected in almost any part of Ontario's gold region at a cost not exceeding $15,000. Under skilful management a small capital is sufficient to place a mine on a working basis, and to equip it with all necessary machinery, buildings, &c. To give an illustration, the Sultana Mine (Lake of the Woods), with a 10-stamp mill, is producing every week bullion to the value of $2500 to $3000. Of course, no one will deny that there is considerable gold in British Columbia, but it is also a fact that the precious metal is intimately associated with the baser metals, and a comparison between British Columbia and Ontario is decidedly in favour of the latter.

Numerous important discoveries of gold are also being made around Sudbury (Ontario), a town already famous as a nickel producer, and there is every probability that this rising town will become still more famous by reason of the recent coal discovery in the vicinity, respecting which, I should mention *en passant*, that the Ontario Government has evidently abundant faith in the value of the deposit, as almost simultaneously with Professor Coleman's report, all lands in the vicinity of the deposit were withdrawn from the market. With regard to the gold discoveries, prospectors have been quietly examining the country in the vicinity for some time past, and are enthusiastic as to the future of the district. In the unsurveyed territory, north of the township of Kelly, in the Wahnapitae district, and about 40 miles north-east of Sudbury, several rich veins, containing free gold, have been found. In Snider township, a few miles from Sudbury, a fully 20 feet vein is reported, and is said to assay $45 to the ton. Near Ramsay Lake, within four miles of Sudbury, two very fine quartz veins, rich in free gold, and assaying $30 to the ton, are reported. Americans are well to the front here, as in other parts of Canada, and are acquiring many locations and investing largely. I have not yet visited the district, but from what I have heard it seems highly probable that another rich gold district will be added to Ontario's number under the name of the Wahnapitae.

Several mining companies have been incorporated lately, among them being the following:—The Western Ontario Mining Company, capital $1,000,000, in $1 shares, to carry on operations in the Rainy River district. The Mikado Gold Mining Company, incorporated under the laws of the Imperial Parliament of Great Britain, is authorised under the great seal of the Province of Ontario to carry on operations within the districts of Rainy River, Thunder Bay, and Algoma. The Empress Gold Mining Company (Limited) is changed into the Lake Superior Mines Development Company. The Lake Harold Gold Mining Company has been changed into the Seine River Mining and Development Company (Limited).

I hear that a very rich body of ore was struck in the shaft of the Law Bill Mine (Seine River), much richer than anything that had hitherto come from the mine, showing free gold all through. Mr. F. S. Wiley, the managing director, reports the discovery of a large reef on locations adjoining the company's property. This reef has a width of from 20 to 500 feet. It has been reported on by experts, and is conceded by them to be of extraordinary merit, assaying from $5 to $60 per ton. The reef is traceable across the company's location 314 X. In addition to this, a number of other promising veins have been discovered during the summer on the company's property. Regarding the Hawk Bay Gold Mine, in the same district, and under the same managership as the Law Bill, the latest report says:—"The vein perceptibly widens as depth is attained, and a great improvement is noticeable in the ore. The ore at the present depth is showing coarse free gold. Experts who have passed their opinion upon the Hawk Bay property express the opinion that it will turn out equal to Law Bill in every respect, and from the splendid looking vein on which we are working at Hawk Bay, we have no doubt as to the ultimate success."

BRITISH GUIANA'S GOLD INDUSTRY.

The R.M.S. *Solent*, which left Georgetown on the 26th ult., took gold to the value of $75,601·69. The shippers were:—

	Ozs.	dwts.	grs.
Colonial Bank	2055	4	1
British Guiana Bank	2125	0	0
Sproston, D. F. and Co. ...	82	15	6
Total	4262	19	7

The following are the returns of gold entered at the Department of Mines for the weeks ending:—

	November 21. Ozs.	dwts.	grs.		November 28. Ozs.	dwts.	grs.
Barama	85	9	5	.....	68	9	21
Barima	322	14	6	.....	902	5	15
Cuyuni	655	5	0	.....	381	13	0
Demerara ...	—			.....	—		
Essequebo ...	190	2	17	.....	483	12	15
Groete Creek ...	32	6	15	.....	53	0	0
Mazaruni ...	—			.....	—		
Potaro	211	16	0	.....	278	1	0
Puruni	27	7	16	.....	179	11	7
Total	1525	1	11	.....	2346	13	10

Export of gold from January 1 to December 7:—

	Ozs.	dwts.	grs.		
1896	108,742	3	4	at	$1,932,830 51
1895	108,449	4	12	at	$1,923,799 90

AUSTRALIAN IRON ORE.—Advices from Australia state that renewed attempts are being made in New South Wales to work the large local deposits of iron. If these attempts are successful, it is believed that metallurgical industry will be developed upon a large scale at Mittagong.

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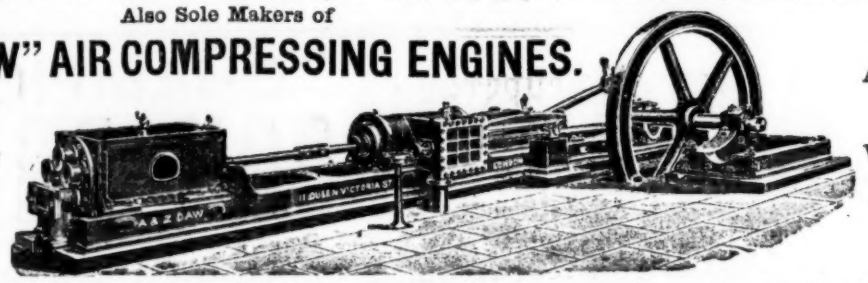

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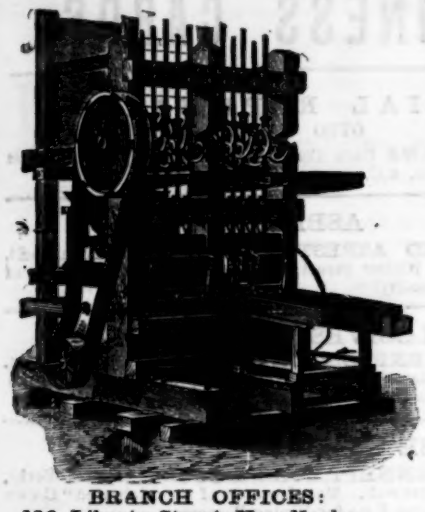

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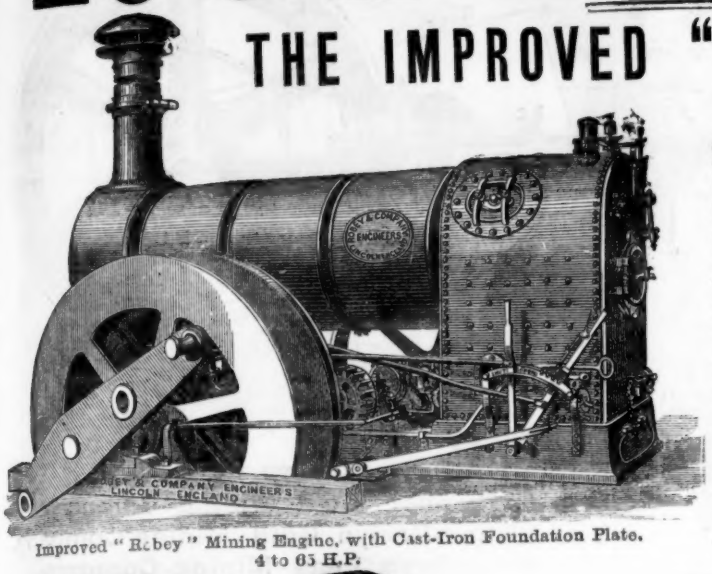

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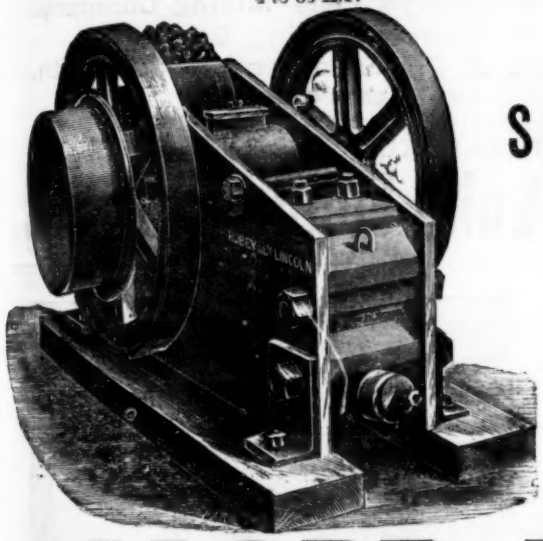

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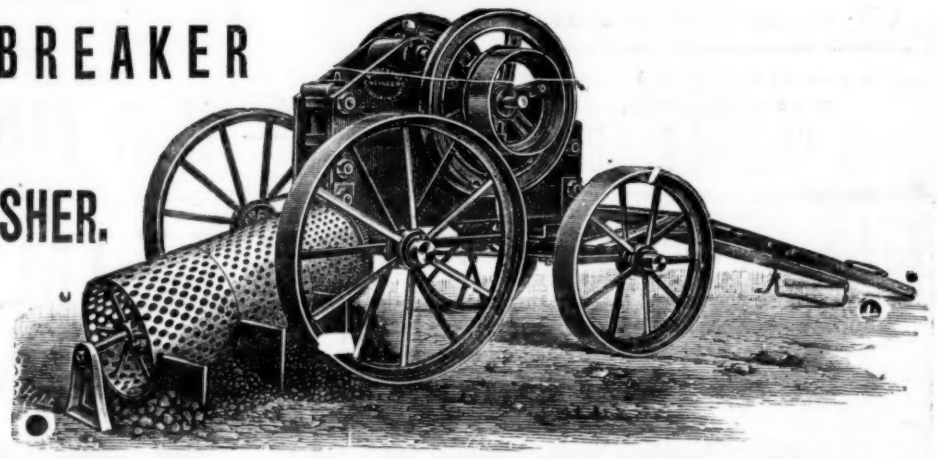

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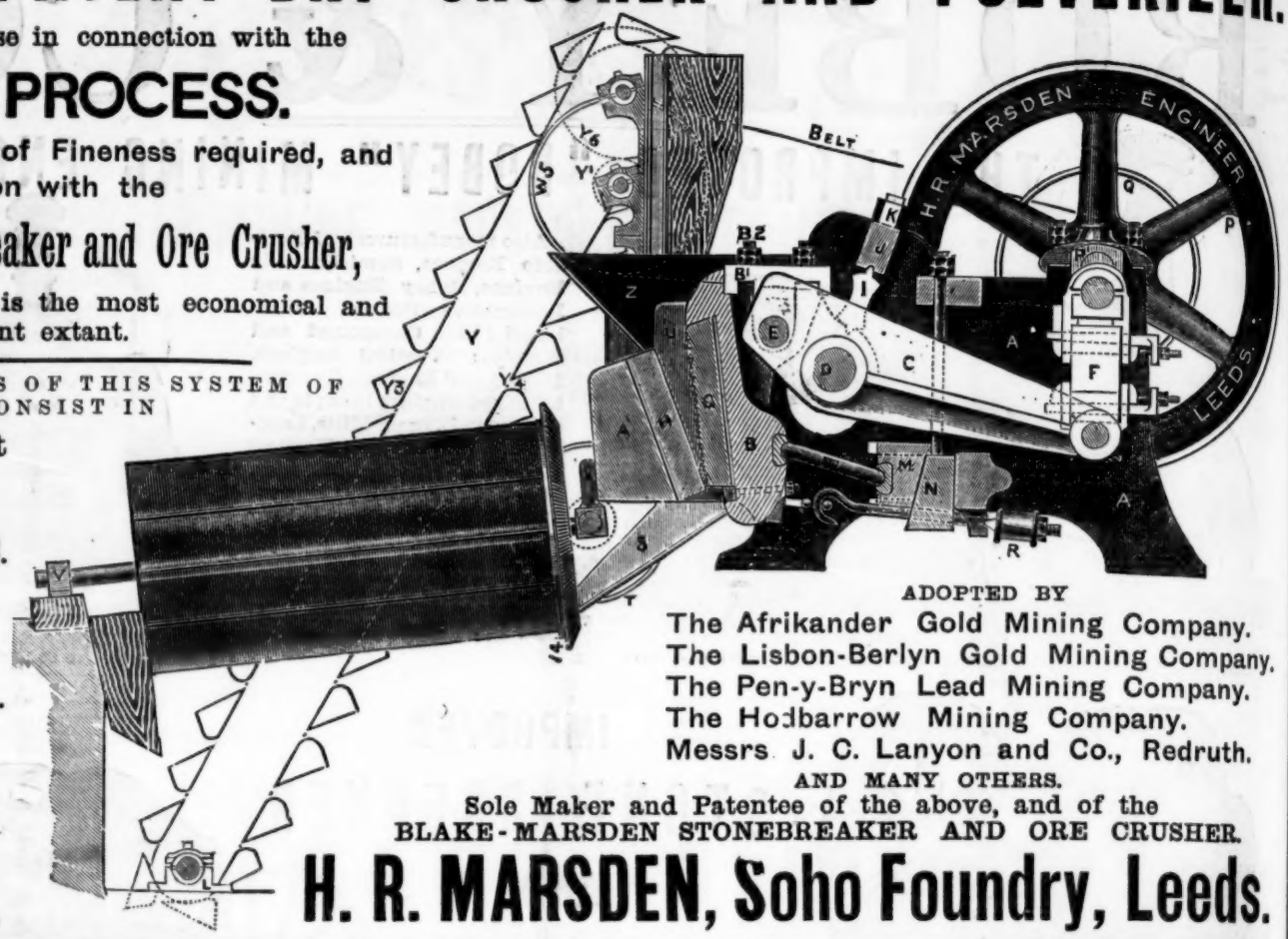

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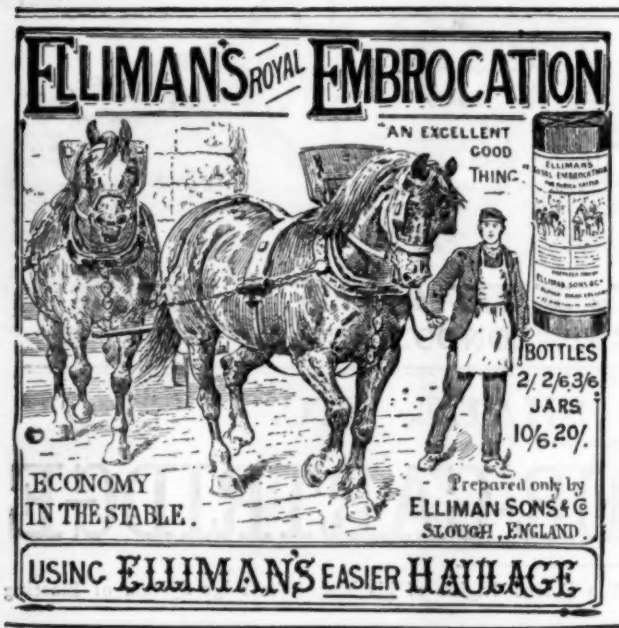

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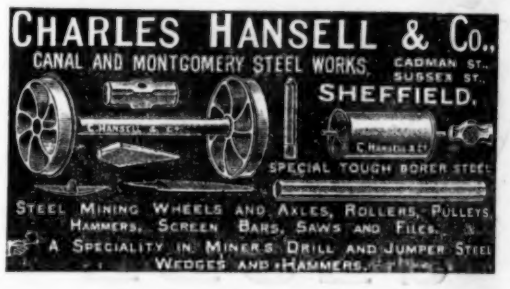
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NOTE

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